

PREVACID- lansoprazole tablet, orally disintegrating, delayed release
Cardinal Health

HIGHLIGHTS OF PRESCRIBING INFORMATION

These highlights do not include all the information needed to use PREVACID and PREVACID SOLUTAB safely and effectively. See full prescribing information for PREVACID and PREVACID SOLUTAB.

PREVACID (lansoprazole) delayed-release capsules, for oral use
PREVACID SOLUTAB (lansoprazole) delayed-release orally disintegrating tablets
Initial U.S. Approval: 1995

----- **RECENT MAJOR CHANGES** -----

Warnings and Precautions, Cutaneous and Systemic Lupus Erythematosus (5.5)	10/2016
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----- **INDICATIONS AND USAGE** -----

PREVACID is a proton pump inhibitor (PPI) indicated for:

- Short-Term Treatment of Active Duodenal Ulcer (1.1)
- *H. pylori* Eradication to Reduce the Risk of Duodenal Ulcer Recurrence (1.2)
- Maintenance of Healed Duodenal Ulcers (1.3)
- Short-Term Treatment of Active Benign Gastric Ulcer (1.4)
- Healing of nonsteroidal anti-inflammatory drugs (NSAID)-Associated Gastric Ulcer (1.5)
- Risk Reduction of NSAID-Associated Gastric Ulcer (1.6)
- Gastroesophageal Reflux Disease (GERD) (1.7)
- Maintenance of Healing of Erosive Esophagitis (EE) (1.8)
- Pathological Hypersecretory Conditions Including Zollinger-Ellison Syndrome (ZES) (1.9)

----- **DOSAGE AND ADMINISTRATION** -----

Indication	Dose	Frequency
Duodenal Ulcers (1.1, 1.3)		
Short-Term Treatment	15 mg	Once daily for 4 wks
Maintenance of Healed	15 mg	Once daily
<i>H. pylori</i> Eradication to Reduce Recurrence of Duodenal Ulcer (1.2)		
Triple Therapy:	PREVACID Amoxicillin Clarithromycin	30 mg 1 gram 500 mg
		Twice daily for 10 or 14 days
Dual Therapy:	PREVACID Amoxicillin	30 mg 1 gram
		Three times daily for 14 days
Benign Gastric Ulcer (1.4)		
Short-Term Treatment	30 mg	Once daily up to 8 wks
NSAID-associated Gastric Ulcer (1.6)		
Healing	30 mg	Once daily for 8 wks
Risk Reduction	15 mg	Once daily up to 12 wks
GERD (1.7)		
Short-Term Treatment of Symptomatic GERD	15 mg	Once daily up to 8 wks
Short-Term Treatment of EE	30 mg	Once daily up to 8 wks
Pediatric (8.4)		
(1 to 11 years of age) Short-Term Treatment of Symptomatic GERD and Short-Term Treatment of EE		
≤30 kg	15 mg	Once daily up to 12 wks
>30 kg	30 mg	Once daily up to 12 wks
(12 to 17 years of age) Short-Term Treatment of Symptomatic GERD		
Nonerosive GERD	15 mg	Once daily up to 8 wks

EE	30 mg	Once daily up to 8 wks
Maintenance of Healing of EE (1.8)*	15 mg	Once daily*
Pathological Hypersecretory Conditions (i.e., ZES) (1.9)	60 mg	Once daily

* Studied for 12 months

----- DOSAGE FORMS AND STRENGTHS -----

Capsules and Tablets: 15 mg and 30 mg. (3)

----- CONTRAINDICATIONS -----

Contraindicated in patients with known severe hypersensitivity to any component of the PREVACID formulations. (4)

----- WARNINGS AND PRECAUTIONS -----

- Gastric Malignancy: In adults, symptomatic response with PREVACID does not preclude the presence of gastric malignancy. Consider additional follow-up and diagnostic testing. (5.1)
- Acute Interstitial Nephritis: Acute interstitial nephritis has been observed in patients taking PPIs. (5.2)
- Clostridium difficile-Associated Diarrhea: PPI therapy may be associated with increased risk of *Clostridium difficile* associated diarrhea. (5.3)
- Bone Fracture: Long-term and multiple daily dose PPI therapy may be associated with an increased risk for osteoporosis-related fractures of the hip, wrist or spine. (5.4)
- Cutaneous and Systemic Lupus Erythematosus: Mostly cutaneous; new onset or exacerbation of existing disease; discontinue PREVACID and refer to specialist for evaluation. (5.5)
- Cyanocobalamin (Vitamin B-12) Deficiency: Daily long-term use (e.g., longer than 3 years) may lead to malabsorption or a deficiency of cyanocobalamin. (5.6)
- Hypomagnesemia: Hypomagnesemia has been reported rarely with prolonged treatment with PPIs. (5.7)

----- ADVERSE REACTIONS -----

Most commonly reported adverse reactions ($\geq 1\%$): diarrhea, abdominal pain, nausea and constipation. (6)

To report SUSPECTED ADVERSE REACTIONS, contact Takeda Pharmaceuticals America Inc. at 1-877-TAKEDA-7 (1-877-825-3327) or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

----- DRUG INTERACTIONS -----

- Atazanavir and Nelfinavir: Do not co-administer with PREVACID because atazanavir and nelfinavir systemic concentrations may be substantially decreased. (7.1)
- Drugs with pH-Dependent Absorption: May interfere with the absorption of drugs where gastric pH is important for bioavailability (e.g. ampicillin esters, digoxin, iron salts, erlotinib, ketoconazole, atazanavir, nelfinavir, and mycophenolate mofetil). (7.1)
- Warfarin: Concomitant warfarin use may require monitoring for increases in INR and prothrombin time. (7.2)
- Tacrolimus: Concomitant tacrolimus use may increase tacrolimus whole blood concentrations. (7.3)
- Theophylline: Titration of theophylline dosage may be required when concomitant PREVACID use is started or stopped. (7.4)
- Methotrexate: PREVACID may increase serum levels of methotrexate. (7.6)

----- USE IN SPECIFIC POPULATIONS -----

- Consider dose adjustment in patients with severe liver impairment. (8.7)
- PREVACID is not effective in patients with symptomatic GERD 1 month to less than 1 year of age. (8.4)

See 17 for PATIENT COUNSELING INFORMATION and Medication Guide.

Revised: 8/2017

FULL PRESCRIBING INFORMATION: CONTENTS*

1 INDICATIONS AND USAGE

- 1.1 Short-Term Treatment of Active Duodenal Ulcer
- 1.2 *H. pylori* Eradication to Reduce the Risk of Duodenal Ulcer Recurrence
- 1.3 Maintenance of Healed Duodenal Ulcers

- 1.4 Short-Term Treatment of Active Benign Gastric Ulcer
- 1.5 Healing of NSAID-Associated Gastric Ulcer
- 1.6 Risk Reduction of NSAID-Associated Gastric Ulcer
- 1.7 Gastroesophageal Reflux Disease (GERD)
- 1.8 Maintenance of Healing of Erosive Esophagitis (EE)
- 1.9 Pathological Hypersecretory Conditions Including Zollinger-Ellison Syndrome (ZES)

2 DOSAGE AND ADMINISTRATION

- 2.1 Recommended Dose
- 2.2 Special Populations
- 2.3 Important Administration Information

3 DOSAGE FORMS AND STRENGTHS

4 CONTRAINDICATIONS

5 WARNINGS AND PRECAUTIONS

- 5.1 Presence of Gastric Malignancy
- 5.2 Acute Interstitial Nephritis
- 5.3 *Clostridium difficile*-Associated Diarrhea
- 5.4 Bone Fracture
- 5.5 Cutaneous and Systemic Lupus Erythematosus
- 5.6 Cyanocobalamin (Vitamin B-12) Deficiency
- 5.7 Hypomagnesemia
- 5.8 Concomitant Use of PREVACID with Methotrexate

6 ADVERSE REACTIONS

- 6.1 Clinical Trials Experience
- 6.2 Postmarketing Experience
- 6.3 Combination Therapy with Amoxicillin and Clarithromycin
- 6.4 Laboratory Values

7 DRUG INTERACTIONS

- 7.1 Drugs with pH-Dependent Absorption
- 7.2 Warfarin
- 7.3 Tacrolimus
- 7.4 Theophylline
- 7.5 Clopidogrel
- 7.6 Methotrexate
- 7.7 Combination Therapy with Clarithromycin

8 USE IN SPECIFIC POPULATIONS

- 8.1 Pregnancy
- 8.3 Nursing Mothers
- 8.4 Pediatric Use
- 8.5 Geriatric Use
- 8.6 Renal Impairment
- 8.7 Hepatic Impairment
- 8.8 Gender
- 8.9 Race

10 OVERDOSAGE

11 DESCRIPTION

12 CLINICAL PHARMACOLOGY

- 12.1 Mechanism of Action
- 12.2 Pharmacodynamics
- 12.3 Pharmacokinetics

13 NONCLINICAL TOXICOLOGY

- 13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility
- 13.2 Animal Toxicology and/or Pharmacology

14 CLINICAL STUDIES

15 REFERENCES

16 HOW SUPPLIED/STORAGE AND HANDLING

17 PATIENT COUNSELING INFORMATION

* Sections or subsections omitted from the full prescribing information are not listed.

FULL PRESCRIBING INFORMATION

1 INDICATIONS AND USAGE

1.1 Short-Term Treatment of Active Duodenal Ulcer

PREVACID is indicated for short-term treatment (for four weeks) for healing and symptom relief of active duodenal ulcer [see *Clinical Studies (14)*].

1.2 *H. pylori* Eradication to Reduce the Risk of Duodenal Ulcer Recurrence

Triple Therapy: PREVACID /amoxicillin/clarithromycin

PREVACID in combination with amoxicillin plus clarithromycin as triple therapy is indicated for the treatment of patients with *H. pylori* infection and duodenal ulcer disease (active or one-year history of a duodenal ulcer) to eradicate *H. pylori*. Eradication of *H. pylori* has been shown to reduce the risk of duodenal ulcer recurrence [see *Clinical Studies (14)*].

Please refer to the full prescribing information for amoxicillin and clarithromycin.

Dual Therapy: PREVACID /amoxicillin

PREVACID in combination with amoxicillin as dual therapy is indicated for the treatment of patients with *H. pylori* infection and duodenal ulcer disease (active or one-year history of a duodenal ulcer) **who are either allergic or intolerant to clarithromycin or in whom resistance to clarithromycin is known or suspected** (see the clarithromycin prescribing information, MICROBIOLOGY section). Eradication of *H. pylori* has been shown to reduce the risk of duodenal ulcer recurrence [see *Clinical Studies (14)*].

Please refer to the full prescribing information for amoxicillin.

1.3 Maintenance of Healed Duodenal Ulcers

PREVACID is indicated to maintain healing of duodenal ulcers. Controlled studies do not extend beyond 12 months [see *Clinical Studies (14)*].

1.4 Short-Term Treatment of Active Benign Gastric Ulcer

PREVACID is indicated for short-term treatment (up to eight weeks) for healing and symptom relief of active benign gastric ulcer [see *Clinical Studies (14)*].

1.5 Healing of NSAID-Associated Gastric Ulcer

PREVACID is indicated for the treatment of NSAID-associated gastric ulcer in patients who continue NSAID use. Controlled studies did not extend beyond eight weeks [see *Clinical Studies (14)*].

1.6 Risk Reduction of NSAID-Associated Gastric Ulcer

PREVACID is indicated for reducing the risk of NSAID-associated gastric ulcers in patients with a history of a documented gastric ulcer who require the use of an NSAID. Controlled studies did not extend beyond 12 weeks [see *Clinical Studies (14)*].

1.7 Gastroesophageal Reflux Disease (GERD)

Short-Term Treatment of Symptomatic GERD

PREVACID is indicated for the treatment of heartburn and other symptoms associated with GERD for up to eight weeks [see Clinical Studies (14)].

Short-Term Treatment of Erosive Esophagitis

PREVACID is indicated for short-term treatment (up to eight weeks) for healing and symptom relief of all grades of erosive esophagitis. For patients who do not heal with PREVACID for eight weeks (5 to 10%), it may be helpful to give an additional eight weeks of treatment. If there is a recurrence of erosive esophagitis an additional eight week course of PREVACID may be considered [see Clinical Studies (14)].

1.8 Maintenance of Healing of Erosive Esophagitis (EE)

PREVACID is indicated to maintain healing of erosive esophagitis. Controlled studies did not extend beyond 12 months [see Clinical Studies (14)].

1.9 Pathological Hypersecretory Conditions Including Zollinger-Ellison Syndrome (ZES)

PREVACID is indicated for the long-term treatment of pathological hypersecretory conditions, including Zollinger-Ellison syndrome [see Clinical Studies (14)].

2 DOSAGE AND ADMINISTRATION

PREVACID is available as a capsule and as an orally disintegrating tablet (SoluTab). Both are available in 15 mg and 30 mg strengths. Directions for use specific to the route and available methods of administration for each of these dosage forms is presented below. PREVACID should be taken before eating. PREVACID capsule and SoluTab SHOULD NOT BE CRUSHED OR CHEWED. In the clinical trials, antacids were used concomitantly.

2.1 Recommended Dose

Indication	Recommended Dose	Frequency
Duodenal Ulcers		
Short-Term Treatment	15 mg	Once daily for 4 weeks
Maintenance of Healed	15 mg	Once daily
<i>H. pylori</i> Eradication to Reduce the Risk of Duodenal Ulcer Recurrence*		
Triple Therapy:		
PREVACID	30 mg	Twice daily (q12h) for 10 or 14 days
Amoxicillin	1 gram	Twice daily (q12h) for 10 or 14 days
Clarithromycin	500 mg	Twice daily (q12h) for 10 or 14 days
Dual Therapy:		
PREVACID	30 mg	Three times daily (q8h) for 14 days
Amoxicillin	1 gram	Three times daily (q8h) for 14 days
Benign Gastric Ulcer		
Short-Term Treatment	30 mg	Once daily for up to 8 weeks

NSAID-associated Gastric Ulcer

Healing	30 mg	Once daily for 8 weeks [†]
Risk Reduction	15 mg	Once daily for up to 12 weeks [†]

Gastroesophageal Reflux Disease (GERD)

Short-Term Treatment of Symptomatic GERD	15 mg	Once daily for up to 8 weeks
Short-Term Treatment of Erosive Esophagitis	30 mg	Once daily for up to 8 weeks [‡]

Pediatric

(1 to 11 years of age)

Short-Term Treatment of Symptomatic GERD and Short-Term Treatment of Erosive Esophagitis

≤30 kg	15 mg	Once daily for up to 12 weeks [§]
>30 kg	30 mg	Once daily for up to 12 weeks [§]

(12 to 17 years of age)

Short-Term Treatment of Symptomatic GERD

Nonerosive GERD	15 mg	Once daily for up to 8 weeks
Erosive Esophagitis	30 mg	Once daily for up to 8 weeks

Maintenance of Healing of Erosive Esophagitis

Pathological Hypersecretory Conditions Including Zollinger-Ellison Syndrome

* Please refer to amoxicillin and clarithromycin full prescribing information for CONTRAINDICATIONS and WARNINGS, and for information regarding dosing in elderly and renally-impaired patients.

[†] Controlled studies did not extend beyond indicated duration.

[‡] For patients who do not heal with PREVACID for eight weeks (5 to 10%), it may be helpful to give an additional eight weeks of treatment. If there is a recurrence of erosive esophagitis, an additional eight week course of PREVACID may be considered.

[§] The PREVACID dose was increased (up to 30 mg twice daily) in some pediatric patients after two or more weeks of treatment if they remained symptomatic. For pediatric patients unable to swallow an intact capsule please see Administration Options.

[¶] Controlled studies did not extend beyond 12 months.

[#] Varies with individual patient. Recommended adult starting dose is 60 mg once daily. Doses should be adjusted to individual patient needs and should continue for as long as clinically indicated. Dosages up to 90 mg twice daily have been administered. Daily dose of greater than 120 mg should be administered in divided doses. Some patients with Zollinger-Ellison Syndrome have been treated continuously with PREVACID for more than four years.

Patients should be instructed that if a dose is missed, it should be taken as soon as possible. However, if the next scheduled dose is due, the patient should not take the missed dose, and should be instructed to take the next dose on time. Patients should be instructed not to take two doses at one time to make up for a missed dose.

2.2 Special Populations

Renal impairment patients and geriatric patients do not require dosage adjustment. However, consider dose adjustment in patients with severe liver impairment [see *Use in Specific Populations (8.5, 8.6 and 8.7)*].

2.3 Important Administration Information

Administration Options

PREVACID Capsules – Oral Administration

- PREVACID capsules should be swallowed whole.
- Alternatively, for patients who have difficulty swallowing capsules, PREVACID capsules can be opened and administered as follows:
 - Open capsule.
 - Sprinkle intact granules on one tablespoon of either applesauce, ENSURE pudding, cottage cheese, yogurt or strained pears.
 - Swallow immediately.
- PREVACID capsules may also be emptied into a small volume of either apple juice, orange juice or tomato juice and administered as follows:
 - Open capsule.
 - Sprinkle intact granules into a small volume of either apple juice, orange juice or tomato juice (60 mL – approximately two ounces).
 - Mix briefly.
 - Swallow immediately.
 - To ensure complete delivery of the dose, the glass should be rinsed with two or more volumes of juice and the contents swallowed immediately.

PREVACID Capsules – Nasogastric Tube (≥ 16 French) Administration

- For patients who have a nasogastric tube in place, PREVACID capsules can be administered as follows:
 - Open capsule.
 - Mix intact granules into 40 mL of apple juice. **DO NOT USE OTHER LIQUIDS.**
 - Inject through the nasogastric tube into the stomach.
 - Flush with additional apple juice to clear the tube.

USE IN OTHER FOODS AND LIQUIDS HAS NOT BEEN STUDIED CLINICALLY AND IS THEREFORE NOT RECOMMENDED.

PREVACID SoluTab

- PREVACID SoluTab should not be broken or cut.
- PREVACID SoluTab should not be chewed.
 - Place the tablet on the tongue and allow it to disintegrate, with or without water, until the particles can be swallowed.
 - The tablet typically disintegrates in less than one minute.
 - Alternatively, for children or other patients who have difficulty swallowing tablets, PREVACID SoluTab can be delivered in two different ways.

PREVACID SoluTab – Oral Syringe

For administration via oral syringe, PREVACID SoluTab can be administered as follows:

PREVACID SoluTab – Nasogastric Tube (≥ 8 French) Administration

For administration via a nasogastric tube, PREVACID SoluTab can be administered as follows:

- Place a 15 mg tablet in oral syringe and draw up 4 mL of water, or place a 30 mg tablet in oral syringe and draw up 10 mL of water.
- Shake gently to allow for a quick dispersal.
- After the tablet has dispersed, administer the contents within 15 minutes.
- Refill the syringe with approximately 2 mL (5 mL for the 30 mg tablet) of water, shake gently, and administer any remaining contents.
- Place a 15 mg tablet in a syringe and draw up 4 mL of water, or place a 30 mg tablet in a syringe and draw up 10 mL of water.
- Shake gently to allow for a quick dispersal.
- After the tablet has dispersed, inject through the nasogastric tube into the stomach within 15 minutes.
- Refill the syringe with approximately 5 mL of water, shake gently, and flush the nasogastric tube.

3 DOSAGE FORMS AND STRENGTHS

- 15 mg capsules are opaque, hard gelatin, colored pink and green with the TAP logo and "PREVACID 15" imprinted on the capsule.
- 30 mg capsules are opaque, hard gelatin, colored pink and black with the TAP logo and "PREVACID 30" imprinted on the capsule.
- 15 mg tablets are white to yellowish white, uncoated, colored orange to dark brown speckles with "15" debossed on one side of the tablet.
- 30 mg tablets are white to yellowish white, uncoated, colored orange to dark brown speckles with "30" debossed on one side of the tablet.

4 CONTRAINDICATIONS

PREVACID is contraindicated in patients with known severe hypersensitivity to any component of the formulation. Hypersensitivity reactions may include anaphylaxis, anaphylactic shock, angioedema, bronchospasm, acute interstitial nephritis, and urticaria [*see Adverse Reactions (6)*].

For information about contraindications of antibacterial agents (clarithromycin and amoxicillin) indicated in combination with PREVACID, refer to the CONTRAINDICATIONS section of their prescribing information.

5 WARNINGS AND PRECAUTIONS

5.1 Presence of Gastric Malignancy

In adults, symptomatic response to therapy with PREVACID does not preclude the presence of gastric malignancy. Consider additional follow-up and diagnostic testing in adult patients who have a suboptimal response or an early symptomatic relapse after completing treatment with a PPI. In older patients, also consider an endoscopy.

5.2 Acute Interstitial Nephritis

Acute interstitial nephritis has been observed in patients taking PPIs including PREVACID. Acute interstitial nephritis may occur at any point during PPI therapy and is generally attributed to an idiopathic hypersensitivity reaction. Discontinue PREVACID if acute interstitial nephritis develops [*see Contraindications (4)*].

5.3 *Clostridium difficile*-Associated Diarrhea

Published observational studies suggest that proton pump inhibitor (PPI) therapy like PREVACID may be associated with an increased risk of *Clostridium difficile* associated diarrhea (CDAD), especially in hospitalized patients. This diagnosis should be considered for diarrhea that does not improve [see *Adverse Reactions (6.2)*].

Patients should use the lowest dose and shortest duration of PPI therapy appropriate to the condition being treated.

CDAD has been reported with use of nearly all antibacterial agents. For more information specific to antibacterial agents (clarithromycin and amoxicillin) indicated for use in combination with PREVACID, refer to WARNINGS and PRECAUTIONS sections of those prescribing information.

5.4 Bone Fracture

Several published observational studies suggest that PPI therapy may be associated with an increased risk for osteoporosis-related fractures of the hip, wrist or spine. The risk of fracture was increased in patients who received high-dose, defined as multiple daily doses, and long-term PPI therapy (a year or longer). Patients should use the lowest dose and shortest duration of PPI therapy appropriate to the condition being treated. Patients at risk for osteoporosis-related fractures should be managed according to established treatment guidelines [see *Dosage and Administration (2)* and *Adverse Reactions (6.2)*].

5.5 Cutaneous and Systemic Lupus Erythematosus

Cutaneous lupus erythematosus (CLE) and systemic lupus erythematosus (SLE) have been reported in patients taking PPIs, including lansoprazole. These events have occurred as both new onset and an exacerbation of existing autoimmune disease. The majority of PPI-induced lupus erythematosus cases were CLE.

The most common form of CLE reported in patients treated with PPIs was subacute CLE (SCLE) and occurred within weeks to years after continuous drug therapy in patients ranging from infants to the elderly. Generally, histological findings were observed without organ involvement.

Systemic lupus erythematosus (SLE) is less commonly reported than CLE in patients receiving PPIs. PPI associated SLE is usually milder than non-drug induced SLE. Onset of SLE typically occurred within days to years after initiating treatment primarily in patients ranging from young adults to the elderly. The majority of patients presented with rash; however, arthralgia and cytopenia were also reported.

Avoid administration of PPIs for longer than medically indicated. If signs or symptoms consistent with CLE or SLE are noted in patients receiving PREVACID, discontinue the drug and refer the patient to the appropriate specialist for evaluation. Most patients improve with discontinuation of the PPI alone in four to 12 weeks. Serological testing (e.g., ANA) may be positive and elevated serological test results may take longer to resolve than clinical manifestations.

5.6 Cyanocobalamin (Vitamin B-12) Deficiency

Daily treatment with any acid-suppressing medications over a long period of time (e.g., longer than three years) may lead to malabsorption of cyanocobalamin (Vitamin B-12) caused by hypo- or achlorhydria. Rare reports of cyanocobalamin deficiency occurring with acid-suppressing therapy have been reported in the literature. This diagnosis should be considered if clinical symptoms consistent with cyanocobalamin deficiency are observed.

5.7 Hypomagnesemia

Hypomagnesemia, symptomatic and asymptomatic, has been reported rarely in patients treated with PPIs for at least three months, in most cases after a year of therapy. Serious adverse events include tetany, arrhythmias, and seizures. In most patients, treatment of hypomagnesemia required magnesium replacement and discontinuation of the PPI.

For patients expected to be on prolonged treatment or who take PPIs with medications such as digoxin

or drugs that may cause hypomagnesemia (e.g., diuretics), health care professionals may consider monitoring magnesium levels prior to initiation of PPI treatment and periodically [see *Adverse Reactions (6.2)*].

5.8 Concomitant Use of PREVACID with Methotrexate

Literature suggests that concomitant use of PPIs with methotrexate (primarily at high dose; see methotrexate prescribing information) may elevate and prolong serum levels of methotrexate and/or its metabolite, possibly leading to methotrexate toxicities. In high-dose methotrexate administration, a temporary withdrawal of the PPI may be considered in some patients [see *Drug Interactions (7.6)* and *Clinical Pharmacology (12.3)*].

6 ADVERSE REACTIONS

The following serious adverse reactions are described below and elsewhere in labeling:

- Acute Interstitial Nephritis [see *Warnings and Precautions (5.2)*]
- *Clostridium difficile*-Associated Diarrhea [see *Warnings and Precautions (5.3)*]
- Bone Fracture [see *Warnings and Precautions (5.4)*]
- Cutaneous and Systemic Lupus Erythematosus [see *Warnings and Precautions (5.5)*]
- Cyanocobalamin (Vitamin B-12) Deficiency [see *Warnings and Precautions (5.6)*]
- Hypomagnesemia [see *Warnings and Precautions (5.7)*]

6.1 Clinical Trials Experience

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in clinical practice.

Worldwide, over 10,000 patients have been treated with PREVACID in Phase 2 or Phase 3 clinical trials involving various dosages and durations of treatment. In general, PREVACID treatment has been well-tolerated in both short-term and long-term trials.

The following adverse reactions were reported by the treating physician to have a possible or probable relationship to drug in 1% or more of PREVACID-treated patients and occurred at a greater rate in PREVACID-treated patients than placebo-treated patients in *Table 1*.

Table 1. Incidence of Possibly or Probably Treatment-Related Adverse Reactions in Short-Term, Placebo-Controlled PREVACID Studies

Body System/Adverse Event	PREVACID (N= 2768) %	Placebo (N= 1023) %
Body as a Whole		
Abdominal Pain	2.1	1.2
Digestive System		
Constipation	1.0	0.4
Diarrhea	3.8	2.3
Nausea	1.3	1.2

Headache was also seen at greater than 1% incidence but was more common on placebo. The incidence of diarrhea was similar between patients who received placebo and patients who received 15 mg and 30 mg of PREVACID, but higher in the patients who received 60 mg of PREVACID (2.9%, 1.4%, 4.2%, and 7.4%, respectively).

The most commonly reported possibly or probably treatment-related adverse event during maintenance therapy was diarrhea.

In the risk reduction study of PREVACID for NSAID-associated gastric ulcers, the incidence of diarrhea for patients treated with PREVACID, misoprostol, and placebo was 5%, 22%, and 3%, respectively.

Another study for the same indication, where patients took either a COX-2 inhibitor or lansoprazole and naproxen, demonstrated that the safety profile was similar to the prior study. Additional reactions from this study not previously observed in other clinical trials with PREVACID included contusion, duodenitis, epigastric discomfort, esophageal disorder, fatigue, hunger, hiatal hernia, hoarseness, impaired gastric emptying, metaplasia, and renal impairment.

Additional adverse experiences occurring in less than 1% of patients or subjects who received PREVACID in domestic trials are shown below:

Body as a Whole – abdomen enlarged, allergic reaction, asthenia, back pain, candidiasis, carcinoma, chest pain (not otherwise specified), chills, edema, fever, flu syndrome, halitosis, infection (not otherwise specified), malaise, neck pain, neck rigidity, pain, pelvic pain

Cardiovascular System – angina, arrhythmia, bradycardia, cerebrovascular accident/cerebral infarction, hypertension/hypotension, migraine, myocardial infarction, palpitations, shock (circulatory failure), syncope, tachycardia, vasodilation

Digestive System – abnormal stools, anorexia, bezoar, cardiospasm, cholelithiasis, colitis, dry mouth, dyspepsia, dysphagia, enteritis, eructation, esophageal stenosis, esophageal ulcer, esophagitis, fecal discoloration, flatulence, gastric nodules/fundic gland polyps, gastritis, gastroenteritis, gastrointestinal anomaly, gastrointestinal disorder, gastrointestinal hemorrhage, glossitis, gum hemorrhage, hematemesis, increased appetite, increased salivation, melena, mouth ulceration, nausea and vomiting, nausea and vomiting and diarrhea, gastrointestinal moniliasis, rectal disorder, rectal hemorrhage, stomatitis, tenesmus, thirst, tongue disorder, ulcerative colitis, ulcerative stomatitis

Endocrine System – diabetes mellitus, goiter, hypothyroidism

Hemic and Lymphatic System – anemia, hemolysis, lymphadenopathy

Metabolism and Nutritional Disorders – avitaminosis, gout, dehydration, hyperglycemia/hypoglycemia, peripheral edema, weight gain/loss

Musculoskeletal System – arthralgia, arthritis, bone disorder, joint disorder, leg cramps, musculoskeletal pain, myalgia, myasthenia, ptosis, synovitis

Nervous System – abnormal dreams, agitation, amnesia, anxiety, apathy, confusion, convulsion, dementia, depersonalization, depression, diplopia, dizziness, emotional lability, hallucinations, hemiplegia, hostility aggravated, hyperkinesia, hypertonia, hypesthesia, insomnia, libido decreased/increased, nervousness, neurosis, paresthesia, sleep disorder, somnolence, thinking abnormality, tremor, vertigo

Respiratory System – asthma, bronchitis, cough increased, dyspnea, epistaxis, hemoptysis, hiccup, laryngeal neoplasia, lung fibrosis, pharyngitis, pleural disorder, pneumonia, respiratory disorder, upper respiratory inflammation/infection, rhinitis, sinusitis, stridor

Skin and Appendages – acne, alopecia, contact dermatitis, dry skin, fixed eruption, hair disorder, maculopapular rash, nail disorder, pruritus, rash, skin carcinoma, skin disorder, sweating, urticaria

Special Senses – abnormal vision, amblyopia, blepharitis, blurred vision, cataract, conjunctivitis, deafness, dry eyes, ear/eye disorder, eye pain, glaucoma, otitis media, parosmia, photophobia, retinal degeneration/disorder, taste loss, taste perversion, tinnitus, visual field defect

Urogenital System – abnormal menses, breast enlargement, breast pain, breast tenderness, dysmenorrhea, dysuria, gynecomastia, impotence, kidney calculus, kidney pain, leukorrhea, menorrhagia, menstrual disorder, penis disorder, polyuria, testis disorder, urethral pain, urinary frequency, urinary retention,

urinary tract infection, urinary urgency, urination impaired, vaginitis.

6.2 Postmarketing Experience

Additional adverse experiences have been reported since PREVACID has been marketed. The majority of these cases are foreign-sourced and a relationship to PREVACID has not been established. Because these reactions were reported voluntarily from a population of unknown size, estimates of frequency cannot be made. These events are listed below by COSTART body system.

Body as a Whole – anaphylactic/anaphylactoid reactions, systemic lupus erythematosus; *Digestive System* – hepatotoxicity, pancreatitis, vomiting; *Hemic and Lymphatic System* – agranulocytosis, aplastic anemia, hemolytic anemia, leukopenia, neutropenia, pancytopenia, thrombocytopenia, and thrombotic thrombocytopenic purpura; *Infections and Infestations* – *Clostridium difficile* associated diarrhea; *Metabolism and Nutritional Disorders* – hypomagnesemia; *Musculoskeletal System* – bone fracture, myositis; *Skin and Appendages* – severe dermatologic reactions including erythema multiforme, Stevens-Johnson syndrome, toxic epidermal necrolysis (some fatal), cutaneous lupus erythematosus; *Special Senses* – speech disorder; *Urogenital System* – interstitial nephritis, urinary retention.

6.3 Combination Therapy with Amoxicillin and Clarithromycin

In clinical trials using combination therapy with PREVACID plus amoxicillin and clarithromycin, and PREVACID plus amoxicillin, no adverse reactions peculiar to these drug combinations were observed. Adverse reactions that have occurred have been limited to those that had been previously reported with PREVACID, amoxicillin, or clarithromycin.

Triple Therapy: PREVACID/amoxicillin/clarithromycin

The most frequently reported adverse reactions for patients who received triple therapy for 14 days were diarrhea (7%), headache (6%), and taste perversion (5%). There were no statistically significant differences in the frequency of reported adverse reactions between the 10- and 14-day triple therapy regimens. No treatment-emergent adverse reactions were observed at significantly higher rates with triple therapy than with any dual therapy regimen.

Dual Therapy: PREVACID/amoxicillin

The most frequently reported adverse reactions for patients who received PREVACID three times daily plus amoxicillin three times daily dual therapy were diarrhea (8%) and headache (7%). No treatment-emergent adverse reactions were observed at significantly higher rates with PREVACID three times daily plus amoxicillin three times daily dual therapy than with PREVACID alone.

For information about adverse reactions with antibacterial agents (amoxicillin and clarithromycin) indicated in combination with PREVACID, refer to the ADVERSE REACTIONS section of their prescribing information.

6.4 Laboratory Values

The following changes in laboratory parameters in patients who received PREVACID were reported as adverse reactions:

Abnormal liver function tests, increased SGOT (AST), increased SGPT (ALT), increased creatinine, increased alkaline phosphatase, increased globulins, increased GGTP, increased/decreased/abnormal WBC, abnormal AG ratio, abnormal RBC, bilirubinemia, blood potassium increased, blood urea increased, crystal urine present, eosinophilia, hemoglobin decreased, hyperlipemia, increased/decreased electrolytes, increased/decreased cholesterol, increased glucocorticoids, increased LDH, increased/decreased/abnormal platelets, increased gastrin levels and positive fecal occult blood. Urine abnormalities such as albuminuria, glycosuria, and hematuria were also reported. Additional isolated laboratory abnormalities were reported.

In the placebo controlled studies, when SGOT (AST) and SGPT (ALT) were evaluated, 0.4% (4/978)

and 0.4% (11/2677) patients, who received placebo and PREVACID, respectively, had enzyme elevations greater than three times the upper limit of normal range at the final treatment visit. None of these patients who received PREVACID reported jaundice at any time during the study.

In clinical trials using combination therapy with PREVACID plus amoxicillin and clarithromycin, and PREVACID plus amoxicillin, no increased laboratory abnormalities particular to these drug combinations were observed.

For information about laboratory value changes with antibacterial agents (amoxicillin and clarithromycin) indicated in combination with PREVACID, refer to the ADVERSE REACTIONS section of their prescribing information.

7 DRUG INTERACTIONS

7.1 Drugs with pH-Dependent Absorption

Due to its effects on gastric acid secretion, lansoprazole can reduce the absorption of drugs where gastric pH is an important determinant of their bioavailability. As with other drugs that decrease the intragastric acidity, the absorption of drugs such as ampicillin esters, ketoconazole, atazanavir, nelfinavir, iron salts, erlotinib, and mycophenolate mofetil (MMF) can decrease, while the absorption of drugs such as digoxin can increase during treatment with PREVACID [*see Clinical Pharmacology (12.3)*].

PREVACID is likely to substantially decrease the systemic concentrations of HIV protease inhibitors, such as atazanavir and nelfinavir, which are dependent upon the presence of gastric acid for absorption, and may result in a loss of therapeutic effect of atazanavir or nelfinavir and the development of HIV resistance. Therefore, PREVACID should not be co-administered with atazanavir or nelfinavir [*see Clinical Pharmacology (12.3)*].

Co-administration of PPIs in healthy subjects and in transplant patients receiving MMF has been reported to reduce the exposure to the active metabolite, mycophenolic acid (MPA), possibly due to a decrease in MMF solubility at an increased gastric pH. The clinical relevance of reduced MPA exposure on organ rejection has not been established in transplant patients receiving PPIs and MMF. Use PREVACID with caution in transplant patients receiving MMF.

7.2 Warfarin

In a study of healthy subjects, co-administration of single or multiple 60 mg doses of PREVACID and warfarin did not affect the pharmacokinetics of warfarin nor prothrombin time [*see Clinical Pharmacology (12.3)*]. However, there have been reports of increased INR and prothrombin time in patients receiving PPIs and warfarin concomitantly. Increases in INR and prothrombin time may lead to abnormal bleeding and even death. Patients treated with PPIs and warfarin concomitantly may need to be monitored for increases in INR and prothrombin time [*see Clinical Pharmacology (12.3)*].

7.3 Tacrolimus

Concomitant administration of lansoprazole and tacrolimus may increase whole blood levels of tacrolimus, especially in transplant patients who are intermediate or poor metabolizers of CYP2C19.

7.4 Theophylline

A minor increase (10%) in the clearance of theophylline was observed following the administration of PREVACID concomitantly with theophylline. Although the magnitude of the effect on theophylline clearance is small, individual patients may require additional titration of their theophylline dosage when PREVACID is started or stopped to ensure clinically effective blood levels [*see Clinical Pharmacology (12.3)*].

7.5 Clopidogrel

Concomitant administration of lansoprazole and clopidogrel in healthy subjects had no clinically important effect on exposure to the active metabolite of clopidogrel or clopidogrel-induced platelet inhibition [see *Clinical Pharmacology* (12.3)]. No dose adjustment of clopidogrel is necessary when administered with an approved dose of PREVACID.

7.6 Methotrexate

Case reports, published population pharmacokinetic studies, and retrospective analyses suggest that concomitant administration of PPIs and methotrexate (primarily at high dose; see methotrexate prescribing information) may elevate and prolong serum levels of methotrexate and/or its metabolite hydroxymethotrexate. However, no formal drug interaction studies of high dose methotrexate with PPIs have been conducted [see *Warnings and Precautions* (5.8)].

In a study of rheumatoid arthritis patients receiving low-dose methotrexate, PREVACID and naproxen, no effect on pharmacokinetics of methotrexate was observed [see *Clinical Pharmacology* (12.3)].

7.7 Combination Therapy with Clarithromycin

Concomitant administration of clarithromycin with other drugs can lead to serious adverse reactions due to drug interactions [see *Warnings and Precautions* in prescribing information for clarithromycin]. Because of these drug interactions, clarithromycin is contraindicated for co-administration with certain drugs [see *Contraindications* in prescribing information for clarithromycin].

For information about drug interactions of antibacterial agents (amoxicillin and clarithromycin) indicated in combination with PREVACID, refer to the DRUG INTERACTIONS section of their prescribing information.

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Teratogenic effects

Pregnancy Category B. Reproduction studies have been performed in pregnant rats at oral doses up to 40 times the recommended human dose and in pregnant rabbits at oral doses up to 16 times the recommended human dose and have revealed no evidence of impaired fertility or harm to the fetus due to lansoprazole. There are, however, no adequate or well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed [see *Nonclinical Toxicology* (13.2)].

See full prescribing information for clarithromycin before using in pregnant women.

8.3 Nursing Mothers

Lansoprazole or its metabolites are excreted in the milk of rats. It is not known whether lansoprazole is excreted in human milk. Because many drugs are excreted in human milk, because of the potential for serious adverse reactions in nursing infants from lansoprazole, and because of the potential for tumorigenicity shown for lansoprazole in rat carcinogenicity studies, a decision should be made whether to discontinue nursing or to discontinue lansoprazole, taking into account the importance of lansoprazole to the mother.

8.4 Pediatric Use

The safety and effectiveness of PREVACID have been established in pediatric patients one to 17 years of age for short-term treatment of symptomatic GERD and erosive esophagitis, however, lansoprazole was not effective in patients with symptomatic GERD one month to less than one year of age in a multicenter, double-blind, placebo controlled study.

Neonate to less than one year of age

The pharmacokinetics of lansoprazole were studied in pediatric patients with GERD aged less than 28 days and one to 11 months. Compared to healthy adults receiving 30 mg, neonates had higher exposure (mean weight-based normalized AUC values 2.04- and 1.88-fold higher at doses of 0.5 mg/kg/day and 1 mg/kg/day, respectively). Infants aged ≤ 10 weeks had clearance and exposure values that were similar to neonates. Infants aged greater than 10 weeks who received 1 mg/kg/day had mean AUC values that were similar to adults who received a 30 mg dose.

Lansoprazole was not found to be effective in a U.S. and Polish four week multicenter, double-blind, placebo-controlled, parallel-group study of 162 patients between one month and less than 12 months of age with symptomatic GERD based on a medical history of crying/fussing/irritability associated with feedings who had not responded to conservative GERD management (i.e., non-pharmacologic intervention) for seven to 14 days. Patients received lansoprazole as a suspension daily (0.2 to 0.3 mg/kg/day in infants ≤ 10 weeks of age or 1.0 to 1.5 mg/kg/day in infants greater than 10 weeks or placebo) for up to four weeks of double-blind treatment.

The primary efficacy endpoint was assessed by greater than 50% reduction from baseline in either the percent of feedings with a crying/fussing/irritability episode or the duration (minutes) of a crying/fussing/irritability episode within one hour after feeding.

There was no difference in the percentage of responders between the lansoprazole pediatric suspension group and placebo group (54% in both groups).

There were no adverse events reported in pediatric clinical studies (one month to less than 12 months of age) that were not previously observed in adults.

Based on the results of the Phase 3 efficacy study, lansoprazole was not shown to be effective. Therefore, these results do not support the use of lansoprazole in treating symptomatic GERD in infants.

One to 11 years of age

In an uncontrolled, open-label, U.S. multicenter study, 66 pediatric patients (one to 11 years of age) with GERD were assigned, based on body weight, to receive an initial dose of either PREVACID 15 mg daily if ≤ 30 kg or PREVACID 30 mg daily if greater than 30 kg administered for eight to 12 weeks. The PREVACID dose was increased (up to 30 mg twice daily) in 24 of 66 pediatric patients after two or more weeks of treatment if they remained symptomatic. At baseline 85% of patients had mild to moderate overall GERD symptoms (assessed by investigator interview), 58% had non-erosive GERD and 42% had erosive esophagitis (assessed by endoscopy).

After eight to 12 weeks of PREVACID treatment, the intent-to-treat analysis demonstrated an approximate 50% reduction in frequency and severity of GERD symptoms.

Twenty-one of 27 erosive esophagitis patients were healed at eight weeks and 100% of patients were healed at 12 weeks by endoscopy (*Table 2*).

Table 2. GERD Symptom Improvement and Erosive Esophagitis Healing Rates in Pediatric Patients Age 1 to 11

GERD	Final Visit* % (n/N)
Symptomatic GERD Improvement in Overall GERD Symptoms [‡]	76% (47/62 [†])
Erosive Esophagitis Improvement in Overall GERD Symptoms [‡]	81% (22/27)
Healing Rate	100% (27/27)

* At Week 8 or Week 12

[†] No data were available for 4 pediatric patients.

‡ Symptoms assessed by patients diary kept by caregiver.

In a study of 66 pediatric patients in the age group one year to 11 years old after treatment with PREVACID given orally in doses of 15 mg daily to 30 mg twice daily, increases in serum gastrin levels were similar to those observed in adult studies. Median fasting serum gastrin levels increased 89% from 51 pg/mL at baseline to 97 pg/mL [interquartile range (25th to 75th percentile) of 71 to 130 pg/mL] at the final visit.

The pediatric safety of PREVACID capsules has been assessed in 66 pediatric patients aged one to 11 years of age. Of the 66 patients with GERD 85% (56/66) took PREVACID for 8 weeks and 15% (10/66) took it for 12 weeks.

The most frequently reported (two or more patients) treatment-related adverse reactions in patients one to 11 years of age (N=66) were constipation (5%) and headache (3%).

Twelve to 17 years of age

In an uncontrolled, open-label, U.S. multicenter study, 87 adolescent patients (12 to 17 years of age) with symptomatic GERD were treated with PREVACID for 8 to 12 weeks. Baseline upper endoscopies classified these patients into two groups: 64 (74%) nonerosive GERD and 23 (26%) erosive esophagitis (EE). The nonerosive GERD patients received PREVACID 15 mg daily for eight weeks and the EE patients received PREVACID 30 mg daily for eight to 12 weeks. At baseline, 89% of these patients had mild to moderate overall GERD symptoms (assessed by investigator interviews). During 8 weeks of PREVACID treatment, adolescent patients experienced a 63% reduction in frequency and a 69% reduction in severity of GERD symptoms based on diary results.

Twenty-one of 22 (95.5%) adolescent erosive esophagitis patients were healed after eight weeks of PREVACID treatment. One patient remained unhealed after 12 weeks of treatment (*Table 3*).

Table 3. GERD Symptom Improvement and Erosive Esophagitis Healing Rates in Pediatric Patients Age 12 to 17

GERD	Final Visit % (n/N)
Symptomatic GERD (All Patients) Improvement in Overall GERD Symptoms*	73.2% (60/82) [†]
Nonerosive GERD Improvement in Overall GERD Symptoms*	71.2% (42/59) [†]
Erosive Esophagitis Improvement in Overall GERD Symptoms*	78.3% (18/23)
Healing Rate [‡]	95.5% (21/22) [‡]

* Symptoms assessed by patient diary (parents/caregivers as necessary).

[†] No data available for five patients.

[‡] Data from one healed patient was excluded from this analysis due to timing of final endoscopy.

In these 87 adolescent patients, increases in serum gastrin levels were similar to those observed in adult studies, median fasting serum gastrin levels increased 42% from 45 pg/mL at baseline to 64 pg/mL [interquartile range (25th to 75th percentile) of 44 to 88 pg/mL] at the final visit. (Normal serum gastrin levels are 25 to 111 pg/mL.)

The safety of PREVACID capsules has been assessed in these 87 adolescent patients. Of the 87 adolescent patients with GERD, 6% (5/87) took PREVACID for less than six weeks, 93% (81/87) for six to 10 weeks, and 1% (1/87) for greater than 10 weeks.

The most frequently reported (at least 3%) treatment-related adverse reactions in these patients were

headache (7%), abdominal pain (5%), nausea (3%) and dizziness (3%). Treatment-related dizziness, reported in this prescribing information as occurring in less than 1% of adult patients, was reported in this study by three adolescent patients with nonerosive GERD, who had dizziness concurrently with other reactions (such as migraine, dyspnea, and vomiting).

8.5 Geriatric Use

No dosage adjustment of PREVACID is necessary in geriatric patients. The incidence rates of adverse reactions and laboratory test abnormalities are similar to those seen in younger patients [see *Clinical Pharmacology* (12.3)].

8.6 Renal Impairment

No dosage adjustment of PREVACID is necessary in patients with renal impairment. The pharmacokinetics of lansoprazole in patients with various degrees of renal impairment were not substantially different compared to those in subjects with normal renal function [see *Clinical Pharmacology* (12.3)].

8.7 Hepatic Impairment

In patients with various degrees of chronic hepatic impairment, an increase in the mean AUC of up to 500% was observed at steady state compared to healthy subjects. Consider dose reduction in patients with severe hepatic impairment [see *Clinical Pharmacology* (12.3)].

8.8 Gender

Over 4,000 women were treated with PREVACID. Ulcer healing rates in females were similar to those in males. The incidence rates of adverse reactions in females were similar to those seen in males [see *Clinical Pharmacology* (12.3)].

8.9 Race

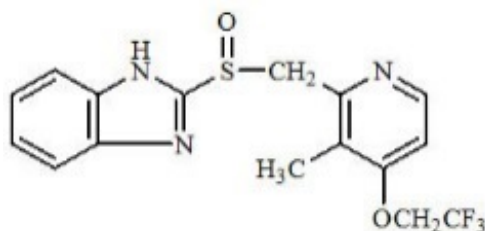
The pooled mean pharmacokinetic parameters of PREVACID from twelve U.S. Phase 1 studies (N=513) were compared to the mean pharmacokinetic parameters from two Asian studies (N=20). The mean AUCs of PREVACID in Asian subjects were approximately twice those seen in pooled U.S. data; however, the inter-individual variability was high. The C_{\max} values were comparable.

10 OVERDOSAGE

PREVACID is not removed from the circulation by hemodialysis. In one reported overdose, a patient consumed 600 mg of PREVACID with no adverse reaction. Oral lansoprazole doses up to 5000 mg/kg in rats [approximately 1300 times the 30 mg human dose based on body surface area (BSA)] and in mice (about 675.7 times the 30 mg human dose based on BSA) did not produce deaths or any clinical signs.

11 DESCRIPTION

The active ingredient in PREVACID Delayed-Release Capsules and PREVACID SoluTab Delayed-Release Orally Disintegrating Tablets is lansoprazole, a substituted benzimidazole, 2-[[[3-methyl-4-(2,2,2-trifluoroethoxy)-2-pyridyl] methyl] sulfinyl] benzimidazole, a compound that inhibits gastric acid secretion. Its empirical formula is $C_{16}H_{14}F_3N_3O_2S$ with a molecular weight of 369.37. Lansoprazole has the following structure:



Lansoprazole is a white to brownish-white odorless crystalline powder which melts with decomposition at approximately 166°C. Lansoprazole is freely soluble in dimethylformamide; soluble in methanol; sparingly soluble in ethanol; slightly soluble in ethyl acetate, dichloromethane and acetonitrile; very slightly soluble in ether; and practically insoluble in hexane and water.

Lansoprazole is stable when exposed to light for up to two months. The rate of degradation of the compound in aqueous solution increases with decreasing pH. The degradation half-life of the drug substance in aqueous solution at 25°C is approximately 0.5 hour at pH 5.0 and approximately 18 hours at pH 7.0.

PREVACID is supplied in delayed-release capsules and in delayed-release orally disintegrating tablets (SoluTab) for oral administration.

PREVACID capsules are available in two dosage strengths: 15 mg and 30 mg of lansoprazole per capsule. Each delayed-release capsule contains enteric-coated granules consisting of 15 mg or 30 mg of lansoprazole (active ingredient) and the following inactive ingredients: sugar sphere, sucrose, methacrylic acid copolymer, low substituted hydroxypropyl cellulose, starch, magnesium carbonate, talc, polyethylene glycol, titanium dioxide, polysorbate 80, hydroxypropyl cellulose, colloidal silicon dioxide, D&C Red No. 28, FD&C Blue No. 1, FD&C Green No. 3¹, and FD&C Red No. 40.

PREVACID SoluTab is available in two dosage strengths: 15 mg and 30 mg of lansoprazole per tablet. Each delayed-release orally disintegrating tablet contains enteric-coated microgranules consisting of 15 mg or 30 mg of lansoprazole (active ingredient) and the following inactive ingredients: mannitol, methacrylic acid, hydroxypropyl cellulose, lactose monohydrate-microcrystalline cellulose sphere, triethyl citrate, crospovidone, polyacrylate, magnesium carbonate, aspartame², glyceryl monostearate, hypromellose, magnesium stearate, citric acid, titanium dioxide, talc, artificial strawberry flavor, polyethylene glycol, polysorbate 80 and ferric oxide.

¹ PREVACID 15 mg capsules only.

² **Phenylketonurics: Contains Phenylalanine 2.5 mg per 15 mg Tablet and 5.1 mg per 30 mg Tablet.**

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

Lansoprazole belongs to a class of antisecretory compounds, the substituted benzimidazoles, that suppress gastric acid secretion by specific inhibition of the (H⁺, K⁺)-ATPase enzyme system at the secretory surface of the gastric parietal cell. Because this enzyme system is regarded as the acid (proton) pump within the parietal cell, lansoprazole has been characterized as a gastric acid-pump inhibitor, in that it blocks the final step of acid production. This effect is dose-related and leads to inhibition of both basal and stimulated gastric acid secretion irrespective of the stimulus. Lansoprazole does not exhibit anticholinergic or histamine type-2 antagonist activity.

12.2 Pharmacodynamics

Antisecretory Activity: After oral administration, lansoprazole was shown to significantly decrease the basal acid output and significantly increase the mean gastric pH and percent of time the gastric pH was

greater than three and greater than four. Lansoprazole also significantly reduced meal-stimulated gastric acid output and secretion volume, as well as pentagastrin-stimulated acid output. In patients with hypersecretion of acid, lansoprazole significantly reduced basal and pentagastrin-stimulated gastric acid secretion. Lansoprazole inhibited the normal increases in secretion volume, acidity and acid output induced by insulin.

The intragastric pH results of a five-day, pharmacodynamic, crossover study of 15 mg and 30 mg of once daily lansoprazole are presented in *Table 4*:

Table 4. Mean Antisecretory Effects After Single and Multiple Daily PREVACID Dosing

Parameter	Baseline Value	PREVACID			
		15 mg		30 mg	
		Day 1	Day 5	Day 1	Day 5
Mean 24 Hour pH	2.1	2.7*	4.0*	3.6†	4.9†
Mean Nighttime pH	1.9	2.4	3.0*	2.6	3.8†
% Time Gastric pH>3	18	33*	59*	51†	72†
% Time Gastric pH>4	12	22*	49*	41†	66†

NOTE: An intragastric pH of greater than 4 reflects a reduction in gastric acid by 99%.

* (p<0.05) versus baseline only.

† (p<0.05) versus baseline and lansoprazole 15 mg.

After the initial dose in this study, increased gastric pH was seen within one to two hours with 30 mg of lansoprazole and two to three hours with 15 mg of lansoprazole. After multiple daily dosing, increased gastric pH was seen within the first hour post-dosing with 30 mg of lansoprazole and within one to two hours post-dosing with 15 mg of lansoprazole.

Acid suppression may enhance the effect of antimicrobials in eradicating *Helicobacter pylori* (*H. pylori*). The percentage of time gastric pH was elevated above five and six was evaluated in a crossover study of PREVACID given daily, twice daily and three times daily (*Table 5*).

Table 5. Mean Antisecretory Effects After Five Days of Twice Daily and Three Times Daily Dosing

Parameter	PREVACID			
	30 mg daily	15 mg twice daily	30 mg twice daily	30 mg three times daily
% Time Gastric pH>5	43	47	59*	77†
% Time Gastric pH>6	20	23	28	45†

* (p<0.05) versus PREVACID 30 mg daily

† (p<0.05) versus PREVACID 30 mg daily, 15 mg twice daily and 30 mg twice daily.

The inhibition of gastric acid secretion as measured by intragastric pH gradually returned to normal over two to four days after multiple doses. There was no indication of rebound gastric acidity.

Enterochromaffin-like (ECL) Cell Effects

During lifetime exposure of rats with up to 150 mg/kg/day of lansoprazole dosed seven days per week, marked hypergastrinemia was observed followed by ECL cell proliferation and formation of carcinoid

tumors, especially in female rats. Gastric biopsy specimens from the body of the stomach from approximately 150 patients treated continuously with lansoprazole for at least one year did not show evidence of ECL cell effects similar to those seen in rat studies. Longer term data are needed to rule out the possibility of an increased risk of the development of gastric tumors in patients receiving long-term therapy with lansoprazole [see *Nonclinical Toxicology (13.1)*].

Other Gastric Effects in Humans

Lansoprazole did not significantly affect mucosal blood flow in the fundus of the stomach. Due to the normal physiologic effect caused by the inhibition of gastric acid secretion, a decrease of about 17% in blood flow in the antrum, pylorus, and duodenal bulb was seen. Lansoprazole significantly slowed the gastric emptying of digestible solids. Lansoprazole increased serum pepsinogen levels and decreased pepsin activity under basal conditions and in response to meal stimulation or insulin injection. As with other agents that elevate intragastric pH, increases in gastric pH were associated with increases in nitrate-reducing bacteria and elevation of nitrite concentration in gastric juice in patients with gastric ulcer. No significant increase in nitrosamine concentrations was observed.

Serum Gastrin Effects

In over 2100 patients, median fasting serum gastrin levels increased 50% to 100% from baseline but remained within normal range after treatment with 15 to 60 mg of oral lansoprazole. These elevations reached a plateau within two months of therapy and returned to pretreatment levels within four weeks after discontinuation of therapy.

Endocrine Effects

Human studies for up to one year have not detected any clinically significant effects on the endocrine system. Hormones studied include testosterone, luteinizing hormone (LH), follicle stimulating hormone (FSH), sex hormone binding globulin (SHBG), dehydroepiandrosterone sulfate (DHEA-S), prolactin, cortisol, estradiol, insulin, aldosterone, parathormone, glucagon, thyroid stimulating hormone (TSH), triiodothyronine (T₃), thyroxine (T₄), and somatotrophic hormone (STH). Lansoprazole in oral doses of 15 to 60 mg for up to one year had no clinically significant effect on sexual function. In addition, lansoprazole in oral doses of 15 to 60 mg for two to eight weeks had no clinically significant effect on thyroid function. In 24 month carcinogenicity studies in Sprague-Dawley rats with daily lansoprazole dosages up to 150 mg/kg, proliferative changes in the Leydig cells of the testes, including benign neoplasm, were increased compared to control rats.

Other Effects

No systemic effects of lansoprazole on the central nervous system, lymphoid, hematopoietic, renal, hepatic, cardiovascular, or respiratory systems have been found in humans. Among 56 patients who had extensive baseline eye evaluations, no visual toxicity was observed after lansoprazole treatment (up to 180 mg/day) for up to 58 months. After lifetime lansoprazole exposure in rats, focal pancreatic atrophy, diffuse lymphoid hyperplasia in the thymus, and spontaneous retinal atrophy were seen.

Microbiology

Lansoprazole, clarithromycin and/or amoxicillin have been shown to be active against most strains of *Helicobacter pylori* *in vitro* and in clinical infections as described in the INDICATIONS AND USAGE section [see *Indications and Usage (1.2)*].

Helicobacter pylori Pretreatment Resistance

Clarithromycin pretreatment resistance (≥ 2.0 mcg/mL) was 9.5% (91/960) by E-test and 11.3% (12/106) by agar dilution in the dual and triple therapy clinical trials (M93-125, M93-130, M93-131, M95-392, and M95-399).

Amoxicillin pretreatment susceptible isolates (≤ 0.25 mcg/mL) occurred in 97.8% (936/957) and 98.0% (98/100) of the patients in the dual and triple therapy clinical trials by E-test and agar dilution, respectively. Twenty-one of 957 patients (2.2%) by E-test, and two of 100 patients (2.0%) by agar

dilution, had amoxicillin pretreatment MICs of greater than 0.25 mcg/mL. One patient on the 14 day triple therapy regimen had an unconfirmed pretreatment amoxicillin minimum inhibitory concentration (MIC) of greater than 256 mcg/mL by E-test and the patient was eradicated of *H. pylori* (Table 6).

Table 6. Clarithromycin Susceptibility Test Results and Clinical/Bacteriological Outcomes*

Clarithromycin Pretreatment Results		Clarithromycin Post-treatment Results				
		<i>H. pylori</i> negative - eradicated	<i>H. pylori</i> positive – not eradicated Post-treatment susceptibility results			
			S [†]	I [†]	R [†]	No MIC
Triple Therapy 14 Day (lansoprazole 30 mg twice daily/amoxicillin 1 g twice daily/clarithromycin 500 mg twice daily) (M95-399, M93-131, M95-392)						
Susceptible [†]	112	105				7
Intermediate [†]	3	3				
Resistant [†]	17	6			7	4
Triple Therapy 10 Day (lansoprazole 30 mg twice daily/amoxicillin 1 g twice daily/clarithromycin 500 mg twice daily) (M95-399)						
Susceptible [†]	42	40	1		1	
Intermediate [†]						
Resistant [†]	4	1			3	

* Includes only patients with pretreatment clarithromycin susceptibility test results

† Susceptible (S) MIC ≤0.25 mcg/mL, Intermediate (I) MIC 0.5 to 1.0 mcg/mL, Resistant (R) MIC ≥2 mcg/mL

Patients not eradicated of *H. pylori* following lansoprazole/amoxicillin/clarithromycin triple therapy will likely have clarithromycin resistant *H. pylori*. Therefore, for those patients who fail therapy, clarithromycin susceptibility testing should be done when possible. Patients with clarithromycin resistant *H. pylori* should not be treated with lansoprazole/amoxicillin/clarithromycin triple therapy or with regimens which include clarithromycin as the sole antimicrobial agent.

Amoxicillin Susceptibility Test Results and Clinical/Bacteriological Outcomes: In the dual and triple therapy clinical trials, 82.6% (195/236) of the patients that had pretreatment amoxicillin susceptible MICs (≤0.25 mcg/mL) were eradicated of *H. pylori*. Of those with pretreatment amoxicillin MICs of greater than 0.25 mcg/mL, three of six had the *H. pylori* eradicated. A total of 30% (21/70) of the patients failed lansoprazole 30 mg three times daily/amoxicillin 1 g three times daily dual therapy and a total of 12.8% (22/172) of the patients failed the 10 and 14 day triple therapy regimens. Post-treatment susceptibility results were not obtained on 11 of the patients who failed therapy. Nine of the 11 patients with amoxicillin post-treatment MICs that failed the triple therapy regimen also had clarithromycin resistant *H. pylori* isolates.

Susceptibility Test for *Helicobacter pylori*: For susceptibility testing information about *Helicobacter pylori*, see Microbiology section in prescribing information for clarithromycin and amoxicillin.

12.3 Pharmacokinetics

PREVACID and PREVACID SoluTab contain an enteric-coated granule formulation of lansoprazole. Absorption of lansoprazole begins only after the granules leave the stomach. Absorption is rapid, with mean peak plasma levels of lansoprazole occurring after approximately 1.7 hours. After a single-dose administration of 15 mg to 60 mg of oral lansoprazole, the peak plasma concentrations (C_{max}) of lansoprazole and the area under the plasma concentration curves (AUCs) of lansoprazole were approximately proportional to the administered dose. Lansoprazole does not accumulate and its

pharmacokinetics are unaltered by multiple dosing.

Absorption: The absorption of lansoprazole is rapid, with the mean C_{max} occurring approximately 1.7 hours after oral dosing, and the absolute bioavailability is over 80%. In healthy subjects, the mean (\pm SD) plasma half-life was 1.5 (\pm 1.0) hours. Both the C_{max} and AUC are diminished by about 50% to 70% if lansoprazole is given 30 minutes after food, compared to the fasting condition. There is no significant food effect if lansoprazole is given before meals.

Distribution: Lansoprazole is 97% bound to plasma proteins. Plasma protein binding is constant over the concentration range of 0.05 to 5.0 mcg/mL.

Metabolism: Lansoprazole is extensively metabolized in the liver. Two metabolites have been identified in measurable quantities in plasma (the hydroxylated sulfinyl and sulfone derivatives of lansoprazole). These metabolites have very little or no antisecretory activity. Lansoprazole is thought to be transformed into two active species which inhibit acid secretion by blocking the proton pump [(H⁺, K⁺)-ATPase enzyme system] at the secretory surface of the gastric parietal cell. The two active species are not present in the systemic circulation. The plasma elimination half-life of lansoprazole is less than two hours while the acid inhibitory effect lasts more than 24 hours. Therefore, the plasma elimination half-life of lansoprazole does not reflect its duration of suppression of gastric acid secretion.

Elimination: Following single-dose oral administration of PREVACID, virtually no unchanged lansoprazole was excreted in the urine. In one study, after a single oral dose of ¹⁴C-lansoprazole, approximately one-third of the administered radiation was excreted in the urine and two-thirds was recovered in the feces. This implies a significant biliary excretion of the lansoprazole metabolites.

Specific Populations

Pediatric Use:

One to 17 years of age

The pharmacokinetics of lansoprazole were studied in pediatric patients with GERD aged one to 11 years and 12 to 17 years in two separate clinical studies. In children aged one to 11 years, lansoprazole was dosed 15 mg daily for subjects weighing \leq 30 kg and 30 mg daily for subjects weighing greater than 30 kg. Mean C_{max} and AUC values observed on Day 5 of dosing were similar between the two dose groups and were not affected by weight or age within each weight-adjusted dose group used in the study. In adolescent subjects aged 12 to 17 years, subjects were randomized to receive lansoprazole at 15 mg or 30 mg daily. Mean C_{max} and AUC values of lansoprazole were not affected by body weight or age; and nearly dose-proportional increases in mean C_{max} and AUC values were observed between the two dose groups in the study. Overall, lansoprazole pharmacokinetics in pediatric patients aged 1 to 17 years were similar to those observed in healthy adult subjects.

Neonate to less than one year of age

Refer to Section 8.4 for the pharmacokinetics of lansoprazole in pediatric patients with GERD aged less than 28 days and one to 11 months.

Geriatric Use: The clearance of lansoprazole is decreased in the elderly, with elimination half-life increased approximately 50% to 100%. Because the mean half-life in the elderly remains between 1.9 to 2.9 hours, repeated once daily dosing does not result in accumulation of lansoprazole. Peak plasma levels were not increased in the elderly. No dosage adjustment is necessary in the elderly [see *Use in Specific Populations (8.5)*].

Renal Impairment: In patients with severe renal impairment, plasma protein binding decreased by 1.0% to 1.5% after administration of 60 mg of lansoprazole. Patients with renal impairment had a shortened elimination half-life and decreased total AUC (free and bound). The AUC for free lansoprazole in plasma, however, was not related to the degree of renal impairment; and the C_{max} and T_{max} (time to reach the maximum concentration) were not different than the C_{max} and T_{max} from subjects with normal renal function. No dosage adjustment is necessary in patients with renal impairment [see *Use in Specific*

Populations (8.6)].

Hepatic Impairment: In patients with various degrees of chronic hepatic impairment, the mean plasma half-life of lansoprazole was prolonged from 1.5 hours to 3.2 to 7.2 hours. An increase in the mean AUC of up to 500% was observed at steady state in hepatically-impaired patients compared to healthy subjects. Consider dose reduction in patients with severe hepatic impairment [*see Use in Specific Populations (8.7)].*

Gender: In a study comparing 12 male and six female human subjects who received lansoprazole, no gender differences were found in pharmacokinetics and intragastric pH results [*see Use in Specific Populations (8.8)].*

Drug-Drug Interactions

PREVACID may interfere with the absorption of other drugs where gastric pH is an important determinant of bioavailability (e.g., ketoconazole, ampicillin esters, iron salts, digoxin).

Lansoprazole is metabolized through the cytochrome P₄₅₀ system, specifically through the CYP3A and CYP2C19 isozymes. Studies have shown that PREVACID does not have clinically significant interactions with other drugs metabolized by the cytochrome P₄₅₀ system, such as warfarin, antipyrine, indomethacin, ibuprofen, phenytoin, propranolol, prednisone, diazepam, or clarithromycin in healthy subjects. These compounds are metabolized through various cytochrome P₄₅₀ isozymes including CYP1A2, CYP2C9, CYP2C19, CYP2D6, and CYP3A.

Atazanavir and Nelfinavir: Lansoprazole causes long-lasting inhibition of gastric acid secretion. Lansoprazole substantially decreases the systemic concentrations of HIV protease inhibitors, such as atazanavir and nelfinavir, which are dependent upon the presence of gastric acid for absorption, and may result in a loss of therapeutic effect of atazanavir or nelfinavir and the development of HIV resistance. Therefore, PREVACID or other proton pump inhibitors, should not be co-administered with atazanavir or nelfinavir.

Theophylline: When PREVACID was administered concomitantly with theophylline (CYP1A2, CYP3A), a minor increase (10%) in the clearance of theophylline was seen. Because of the small magnitude and the direction of the effect on theophylline clearance, this interaction is unlikely to be of clinical concern. Nonetheless, individual patients may require additional titration of their theophylline dosage when PREVACID is started or stopped to ensure clinically effective blood levels.

Warfarin: In a study of healthy subjects neither the pharmacokinetics of warfarin enantiomers nor prothrombin time were affected following single or multiple 60 mg doses of lansoprazole. However, there have been reports of increased International Normalized Ratio (INR) and prothrombin time in patients receiving proton pump inhibitors, including PREVACID, and warfarin concomitantly. Increases in INR and prothrombin time may lead to abnormal bleeding and even death. Patients treated with proton pump inhibitors and warfarin concomitantly may need to be monitored for increases in INR and prothrombin time.

Methotrexate and 7-hydroxymethotrexate: In an open-label, single-arm, eight-day, pharmacokinetic study of 28 adult rheumatoid arthritis patients (who required the chronic use of 7.5 to 15 mg of methotrexate given weekly), administration of seven days of naproxen 500 mg twice daily and PREVACID 30 mg daily had no effect on the pharmacokinetics of methotrexate and 7-hydroxymethotrexate. While this study was not designed to assess the safety of this combination of drugs, no major adverse reactions were noted. However, this study was conducted with low doses of methotrexate. A drug interaction study with high doses of methotrexate has not been conducted.

Amoxicillin: PREVACID has also been shown to have no clinically significant interaction with amoxicillin.

Sucralfate: In a single-dose crossover study examining PREVACID 30 mg and omeprazole 20 mg each administered alone and concomitantly with sucralfate 1 gram, absorption of the proton pump inhibitors was delayed and their bioavailability was reduced by 17% and 16%, respectively, when administered

concomitantly with sucralfate. Therefore, proton pump inhibitors should be taken at least 30 minutes prior to sucralfate. In clinical trials, antacids were administered concomitantly with PREVACID and there was no evidence of a change in the efficacy of PREVACID.

Clonidogrel: Clonidogrel is metabolized to its active metabolite in part by CYP2C19. A study of healthy subjects who were CYP2C19 extensive metabolizers, receiving once daily administration of clonidogrel 75 mg alone or concomitantly with PREVACID 30 mg (n=40), for nine days was conducted. The mean AUC of the active metabolite of clonidogrel was reduced by approximately 14% (mean AUC ratio was 86%, with 90% CI of 80 to 92%) when PREVACID was coadministered compared to administration of clonidogrel alone.

Pharmacodynamic parameters were also measured and demonstrated that the change in inhibition of platelet aggregation (induced by 5 mcM ADP) was related to the change in the exposure to clonidogrel active metabolite. The clinical significance of this finding is not clear.

13 NONCLINICAL TOXICOLOGY

13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility

In two 24 month carcinogenicity studies, Sprague-Dawley rats were treated with oral lansoprazole doses of five to 150 mg/kg/day, about one to 40 times the exposure on a body surface (mg/m²) basis of a 50 kg person of average height [1.46 m² body surface area (BSA)] given the recommended human dose of 30 mg/day. Lansoprazole produced dose-related gastric enterochromaffin-like (ECL) cell hyperplasia and ECL cell carcinoids in both male and female rats. It also increased the incidence of intestinal metaplasia of the gastric epithelium in both sexes. In male rats, lansoprazole produced a dose-related increase of testicular interstitial cell adenomas. The incidence of these adenomas in rats receiving doses of 15 to 150 mg/kg/day (four to 40 times the recommended human dose based on BSA) exceeded the low background incidence (range = 1.4 to 10%) for this strain of rat.

In a 24 month carcinogenicity study, CD-1 mice were treated with oral lansoprazole doses of 15 to 600 mg/kg/day, two to 80 times the recommended human dose based on BSA. Lansoprazole produced a dose-related increased incidence of gastric ECL cell hyperplasia. It also produced an increased incidence of liver tumors (hepatocellular adenoma plus carcinoma). The tumor incidences in male mice treated with 300 and 600 mg/kg/day (40 to 80 times the recommended human dose based on BSA) and female mice treated with 150 to 600 mg/kg/day (20 to 80 times the recommended human dose based on BSA) exceeded the ranges of background incidences in historical controls for this strain of mice. Lansoprazole treatment produced adenoma of rete testis in male mice receiving 75 to 600 mg/kg/day (10 to 80 times the recommended human dose based on BSA).

A 26 week p53 (+/-) transgenic mouse carcinogenicity study was not positive.

Lansoprazole was positive in the Ames test and the *in vitro* human lymphocyte chromosomal aberration assay. Lansoprazole was not genotoxic in the *ex vivo* rat hepatocyte unscheduled DNA synthesis (UDS) test, the *in vivo* mouse micronucleus test, or the rat bone marrow cell chromosomal aberration test.

Lansoprazole at oral doses up to 150 mg/kg/day (40 times the recommended human dose based on BSA) was found to have no effect on fertility and reproductive performance of male and female rats.

13.2 Animal Toxicology and/or Pharmacology

Reproductive Toxicology Studies

Reproduction studies have been performed in pregnant rats at oral lansoprazole doses up to 150 mg/kg/day [40 times the recommended human dose (30 mg/day) based on body surface area (BSA)] and pregnant rabbits at oral lansoprazole doses up to 30 mg/kg/day (16 times the recommended human dose based on BSA) and have revealed no evidence of impaired fertility or harm to the fetus due to lansoprazole.

14 CLINICAL STUDIES

Duodenal Ulcer

In a U.S. multicenter, double-blind, placebo-controlled, dose-response (15, 30, and 60 mg of PREVACID once daily) study of 284 patients with endoscopically documented duodenal ulcer, the percentage of patients healed after two and four weeks was significantly higher with all doses of PREVACID than with placebo. There was no evidence of a greater or earlier response with the two higher doses compared with PREVACID 15 mg. Based on this study and the second study described below, the recommended dose of PREVACID in duodenal ulcer is 15 mg per day (*Table 7*).

Table 7. Duodenal Ulcer Healing Rates

Week	PREVACID			Placebo (N=72)
	15 mg daily (N=68)	30 mg daily (N=74)	60 mg daily (N=70)	
2	42.4%*	35.6%*	39.1%*	11.3%
4	89.4%*	91.7%*	89.9%*	46.1%

* ($p \leq 0.001$) versus placebo.

PREVACID 15 mg was significantly more effective than placebo in relieving day and nighttime abdominal pain and in decreasing the amount of antacid taken per day.

In a second U.S. multicenter study, also double-blind, placebo-controlled, dose-comparison (15 and 30 mg of PREVACID once daily), and including a comparison with ranitidine, in 280 patients with endoscopically documented duodenal ulcer, the percentage of patients healed after four weeks was significantly higher with both doses of PREVACID than with placebo. There was no evidence of a greater or earlier response with the higher dose of PREVACID. Although the 15 mg dose of PREVACID was superior to ranitidine at four weeks, the lack of significant difference at two weeks and the absence of a difference between 30 mg of PREVACID and ranitidine leaves the comparative effectiveness of the two agents undetermined (*Table 8*) [*see Indications and Usage (1.1)*].

Table 8. Duodenal Ulcer Healing Rates

Week	PREVACID		Ranitidine	Placebo (N=41)
	15 mg daily (N=80)	30 mg daily (N=77)	300 mg h.s. (N=82)	
2	35.0%	44.2%	30.5%	34.2%
4	92.3%*	80.3%†	70.5%†	47.5%

* ($p \leq 0.05$) versus placebo and ranitidine.

† ($p \leq 0.05$) versus placebo.

***H. pylori* Eradication to Reduce the Risk of Duodenal Ulcer Recurrence**

Randomized, double-blind clinical studies performed in the U.S. in patients with *H. pylori* and duodenal ulcer disease (defined as an active ulcer or history of an ulcer within one year) evaluated the efficacy of PREVACID in combination with amoxicillin and clarithromycin as triple 14 day therapy or in combination with amoxicillin as dual 14 day therapy for the eradication of *H. pylori*. Based on the results of these studies, the safety and efficacy of two different eradication regimens were established:

Triple therapy: PREVACID 30 mg twice daily/amoxicillin 1 g twice daily/clarithromycin 500 mg twice daily

Dual therapy: PREVACID 30 mg three times daily/amoxicillin 1 g three times daily

All treatments were for 14 days. *H. pylori* eradication was defined as two negative tests (culture and histology) at four to six weeks following the end of treatment.

Triple therapy was shown to be more effective than all possible dual therapy combinations. Dual therapy was shown to be more effective than both monotherapies. Eradication of *H. pylori* has been shown to reduce the risk of duodenal ulcer recurrence.

A randomized, double-blind clinical study performed in the U.S. in patients with *H. pylori* and duodenal ulcer disease (defined as an active ulcer or history of an ulcer within one year) compared the efficacy of PREVACID triple therapy for 10 and 14 days. This study established that the 10 day triple therapy was equivalent to the 14 day triple therapy in eradicating *H. pylori* (Tables 9 and 10) [see Indications and Usage (1.2)].

Table 9. *H. pylori* Eradication Rates – Triple Therapy (PREVACID/amoxicillin/clarithromycin) Percent of Patients Cured [95% Confidence Interval] (Number of patients)

Study	Duration	Triple Therapy Evaluable Analysis*	Triple Therapy Intent-to-Treat Analysis†
M93-131	14 days	92‡ [80.0-97.7] (N=48)	86‡ [73.3-93.5] (N=55)
M95-392	14 days	86§ [75.7-93.6] (N=66)	83§ [72.0-90.8] (N=70)
M95-399¶	14 days	85 [77.0-91.0] (N=113)	82 [73.9-88.1] (N=126)
	10 days	84 [76.0-89.8] (N=123)	81 [73.9-87.6] (N=135)

* Based on evaluable patients with confirmed duodenal ulcer (active or within one year) and *H. pylori* infection at baseline defined as at least two of three positive endoscopic tests from CLOtest, histology and/or culture. Patients were included in the analysis if they completed the study. Additionally, if patients dropped out of the study due to an adverse event related to the study drug, they were included in the evaluable analysis as failures of therapy.

† Patients were included in the analysis if they had documented *H. pylori* infection at baseline as defined above and had a confirmed duodenal ulcer (active or within one year). All dropouts were included as failures of therapy.

‡ (p<0.05) versus PREVACID/amoxicillin and PREVACID/clarithromycin dual therapy.

§ (p<0.05) versus clarithromycin/amoxicillin dual therapy.

¶ The 95% confidence interval for the difference in eradication rates, 10 day minus 14 day is (-10.5, 8.1) in the evaluable analysis and (-9.7, 9.1) in the intent-to-treat analysis.

Table 10. *H. pylori* Eradication Rates – 14 Day Dual Therapy (PREVACID/amoxicillin) Percent of Patients Cured [95% Confidence Interval] (Number of patients)

Study	Dual Therapy Evaluable Analysis*	Dual Therapy Intent-to-Treat Analysis†
M93-131	77‡ [62.5-87.2]	70‡ [56.8-81.2]

	(N=51)	(N=60)
M93-125	66 [§] [51.9-77.5]	61 [§] [48.5-72.9]
	(N=58)	(N=67)

* Based on evaluable patients with confirmed duodenal ulcer (active or within one year) and *H. pylori* infection at baseline defined as at least two of three positive endoscopic tests from CLOtest, histology and/or culture. Patients were included in the analysis if they completed the study. Additionally, if patients dropped out of the study due to an adverse event related to the study drug, they were included in the analysis as failures of therapy.

† Patients were included in the analysis if they had documented *H. pylori* infection at baseline as defined above and had a confirmed duodenal ulcer (active or within one year). All dropouts were included as failures of therapy.

‡ (p<0.05) versus PREVACID alone.

§ (p<0.05) versus PREVACID alone or amoxicillin alone.

Long-Term Maintenance Treatment of Duodenal Ulcers

PREVACID has been shown to prevent the recurrence of duodenal ulcers. Two independent, double-blind, multicenter, controlled trials were conducted in patients with endoscopically confirmed healed duodenal ulcers. Patients remained healed significantly longer and the number of recurrences of duodenal ulcers was significantly less in patients treated with PREVACID than in patients treated with placebo over a 12 month period (*Table 11*) [*see Indications and Usage (1.3)*].

Table 11. Endoscopic Remission Rates

Trial	Drug	No. of Pts.	Percent in Endoscopic Remission		
			0-3 mo.	0-6 mo.	0-12 mo.
#1	PREVACID 15 mg daily	86	90%*	87%*	84%*
	Placebo	83	49%	41%	39%
#2	PREVACID 30 mg daily	18	94%*	94%*	85%*
	PREVACID 15 mg daily	15	87%*	79%*	70%*
	Placebo	15	33%	0%	0%

%=Life Table Estimate

* (p≤0.001) versus placebo.

In trial #2, no significant difference was noted between PREVACID 15 mg and 30 mg in maintaining remission.

Gastric Ulcer

In a U.S. multicenter, double-blind, placebo-controlled study of 253 patients with endoscopically documented gastric ulcer, the percentage of patients healed at four and eight weeks was significantly higher with PREVACID 15 mg and 30 mg once a day than with placebo (*Table 12*) [*see Indications and Usage (1.4)*].

Table 12. Gastric Ulcer Healing Rates

Week	PREVACID			Placebo (N=64)
	15 mg daily (N=65)	30 mg daily (N=63)	60 mg daily (N=61)	

4	64.6%*	58.1%*	53.3%*	37.5%
8	92.2%*	96.8%*	93.2%*	76.7%

* ($p \leq 0.05$) versus placebo.

Patients treated with any PREVACID dose reported significantly less day and night abdominal pain along with fewer days of antacid use and fewer antacid tablets used per day than the placebo group.

Independent substantiation of the effectiveness of PREVACID 30 mg was provided by a meta-analysis of published and unpublished data.

Healing of NSAID-Associated Gastric Ulcer

In two U.S. and Canadian multicenter, double-blind, active-controlled studies in patients with endoscopically confirmed NSAID-associated gastric ulcer who continued their NSAID use, the percentage of patients healed after eight weeks was statistically significantly higher with 30 mg of PREVACID than with the active control. A total of 711 patients were enrolled in the study, and 701 patients were treated. Patients ranged in age from 18 to 88 years (median age 59 years), with 67% female patients and 33% male patients. Race was distributed as follows: 87% Caucasian, 8% Black, 5% Other. There was no statistically significant difference between PREVACID 30 mg daily and the active control on symptom relief (i.e., abdominal pain) (Table 13) [see Indications and Usage (1.5)].

Table 13. NSAID-Associated Gastric Ulcer Healing Rates*

Study #1		
	PREVACID 30 mg daily	Active Control [†]
Week 4	60% (53/88) [‡]	28% (23/83)
Week 8	79% (62/79) [‡]	55% (41/74)
Study #2		
	PREVACID 30 mg daily	Active Control [†]
Week 4	53% (40/75)	38% (31/82)
Week 8	77% (47/61) [‡]	50% (33/66)

* Actual observed ulcer(s) healed at time points ± 2 days

[†] Dose for healing of gastric ulcer

[‡] ($p \leq 0.05$) versus the active control

Risk Reduction of NSAID-Associated Gastric Ulcer

In one large U.S., multicenter, double-blind, placebo- and misoprostol-controlled (misoprostol blinded only to the endoscopist) study in patients who required chronic use of an NSAID and who had a history of an endoscopically documented gastric ulcer, the proportion of patients remaining free from gastric ulcer at four, eight, and 12 weeks was significantly higher with 15 or 30 mg of PREVACID than placebo. A total of 537 patients were enrolled in the study, and 535 patients were treated. Patients ranged in age from 23 to 89 years (median age 60 years), with 65% female patients and 35% male patients. Race was distributed as follows: 90% Caucasian, 6% Black, 4% other. The 30 mg dose of PREVACID demonstrated no additional benefit in risk reduction of the NSAID-associated gastric ulcer than the 15 mg dose (Table 14) [see Indications and Usage (1.6)].

Table 14. Proportion of Patients Remaining Free of Gastric Ulcers*

Week	PREVACID 15 mg daily	PREVACID 30 mg daily	Misoprostol 200 mcg four times daily	Placebo

	(N=121)	(N=116)	(N=106)	(N=112)
4	90%	92%	96%	66%
8	86%	88%	95%	60%
12	80%	82%	93%	51%

* % = Life Table Estimate

(p<0.001) PREVACID 15 mg daily versus placebo; PREVACID 30 mg daily versus placebo; and misoprostol 200 mcg four times daily versus placebo.

(p<0.05) Misoprostol 200 mcg four times daily versus PREVACID 15 mg daily; and misoprostol 200 mcg four times daily versus PREVACID 30 mg daily.

Gastroesophageal Reflux Disease (GERD)

Symptomatic GERD: In a U.S. multicenter, double-blind, placebo-controlled study of 214 patients with frequent GERD symptoms, but no esophageal erosions by endoscopy, significantly greater relief of heartburn associated with GERD was observed with the administration of lansoprazole 15 mg once daily up to eight weeks than with placebo. No significant additional benefit from lansoprazole 30 mg once daily was observed.

The intent-to-treat analyses demonstrated significant reduction in frequency and severity of day and night heartburn. Data for frequency and severity for the eight week treatment period are presented in *Table 15* and in *Figures 1 and 2*:

Table 15. Frequency of Heartburn

Variable	Placebo (n=43)	PREVACID 15 mg (n=80)	PREVACID 30 mg (n=86)
	Median		
% of Days without Heartburn			
Week 1	0%	71%*	46%*
Week 4	11%	81%*	76%*
Week 8	13%	84%*	82%*
% of Nights without Heartburn			
Week 1	17%	86%*	57%*
Week 4	25%	89%*	73%*
Week 8	36%	92%*	80%*

* (p<0.01) versus placebo.

Figure 1

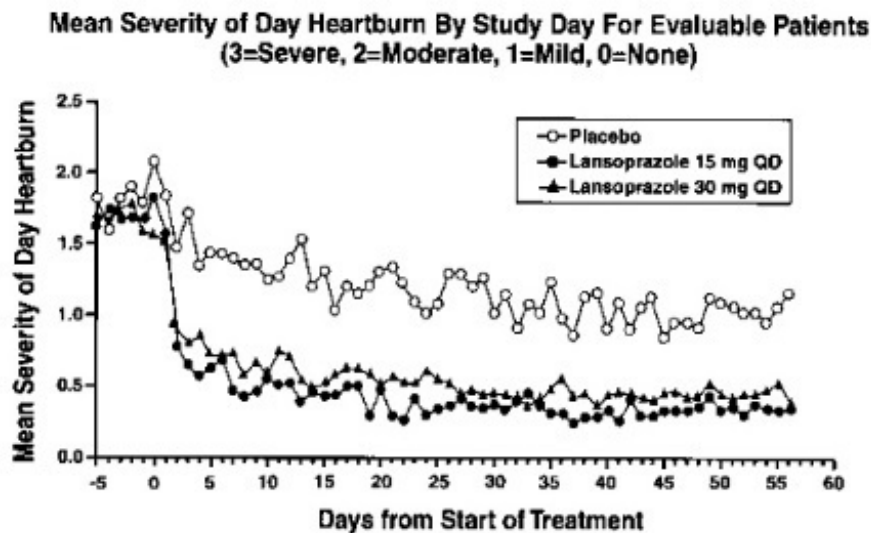
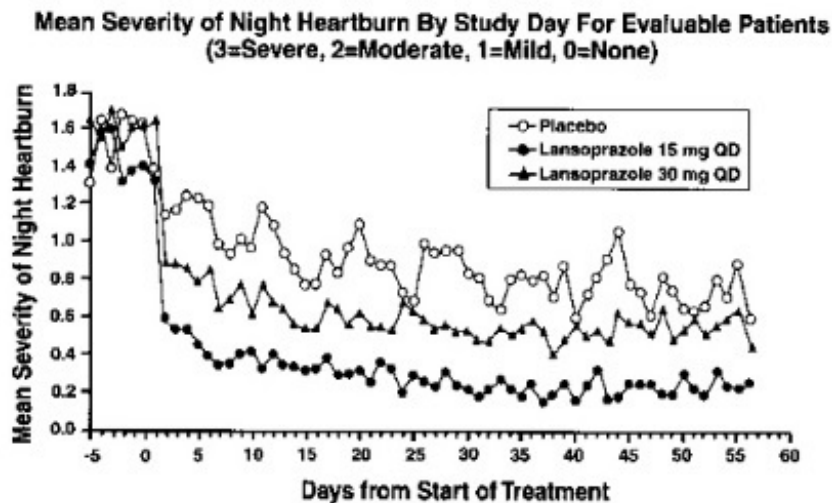


Figure 2



In two U.S., multicenter double-blind, ranitidine-controlled studies of 925 total patients with frequent GERD symptoms, but no esophageal erosions by endoscopy, lansoprazole 15 mg was superior to ranitidine 150 mg (twice daily) in decreasing the frequency and severity of day and night heartburn associated with GERD for the eight week treatment period. No significant additional benefit from lansoprazole 30 mg once daily was observed [see *Indications and Usage (1.7)*].

Erosive Esophagitis

In a U.S. multicenter, double-blind, placebo-controlled study of 269 patients entering with an endoscopic diagnosis of esophagitis with mucosal grading of two or more and grades three and four signifying erosive disease, the percentages of patients with healing are presented in *Table 16*:

Table 16. Erosive Esophagitis Healing Rates

Week	PREVACID			Placebo (N=63)
	15 mg daily (N=69)	30 mg daily (N=65)	60 mg daily (N=72)	
4	67.6%*	81.3%*†	80.6%*†	32.8%
6	87.7%*	95.4%*	94.3%*	52.5%
8	90.9%*	95.4%*	94.4%*	52.5%

* (p<0.001) versus placebo.

† ($p \leq 0.05$) versus PREVACID 15 mg.

In this study, all PREVACID groups reported significantly greater relief of heartburn and less day and night abdominal pain along with fewer days of antacid use and fewer antacid tablets taken per day than the placebo group. Although all doses were effective, the earlier healing in the higher two doses suggests 30 mg daily as the recommended dose.

PREVACID was also compared in a U.S. multicenter, double-blind study to a low dose of ranitidine in 242 patients with erosive reflux esophagitis. PREVACID at a dose of 30 mg was significantly more effective than ranitidine 150 mg twice daily as shown below (*Table 17*).

Table 17. Erosive Esophagitis Healing Rates

Week	PREVACID 30 mg daily (N=115)	Ranitidine 150 mg twice daily (N=127)
2	66.7%*	38.7%
4	82.5%*	52.0%
6	93.0%*	67.8%
8	92.1%*	69.9%

* ($p \leq 0.001$) versus ranitidine.

In addition, patients treated with PREVACID reported less day and nighttime heartburn and took less antacid tablets for fewer days than patients taking ranitidine 150 mg twice daily.

Although this study demonstrates effectiveness of PREVACID in healing erosive esophagitis, it does not represent an adequate comparison with ranitidine because the recommended ranitidine dose for esophagitis is 150 mg four times daily, twice the dose used in this study.

In the two trials described and in several smaller studies involving patients with moderate to severe erosive esophagitis, PREVACID produced healing rates similar to those shown above.

In a U.S. multicenter, double-blind, active-controlled study, 30 mg of PREVACID was compared with ranitidine 150 mg twice daily in 151 patients with erosive reflux esophagitis that was poorly responsive to a minimum of 12 weeks of treatment with at least one H₂-receptor antagonist given at the dose indicated for symptom relief or greater, namely, cimetidine 800 mg/day, ranitidine 300 mg/day, famotidine 40 mg/day or nizatidine 300 mg/day. PREVACID 30 mg was more effective than ranitidine 150 mg twice daily in healing reflux esophagitis, and the percentage of patients with healing were as follows. This study does not constitute a comparison of the effectiveness of histamine H₂-receptor antagonists with PREVACID, as all patients had demonstrated unresponsiveness to the histamine H₂-receptor antagonist mode of treatment. It does indicate, however, that PREVACID may be useful in patients failing on a histamine H₂-receptor antagonist (*Table 18*) [*see Indications and Usage (1.7)*].

Table 18. Reflux Esophagitis Healing Rates in Patients Poorly Responsive to Histamine H₂-Receptor Antagonist Therapy

Week	PREVACID 30 mg daily (N=100)	Ranitidine 150 mg twice daily (N=51)
4	74.7%*	42.6%
8	83.7%*	32.0%

* ($p \leq 0.001$) versus ranitidine.

Long-Term Maintenance Treatment of Erosive Esophagitis

Two independent, double-blind, multicenter, controlled trials were conducted in patients with endoscopically confirmed healed esophagitis. Patients remained in remission significantly longer and the number of recurrences of erosive esophagitis was significantly less in patients treated with PREVACID than in patients treated with placebo over a 12 month period (*Table 19*).

Table 19. Endoscopic Remission Rates

Trial	Drug	No. of Pts.	Percent in Endoscopic Remission		
			0-3 mo.	0-6 mo.	0-12 mo.
#1	PREVACID 15 mg daily	59	83%*	81%*	79%*
	PREVACID 30 mg daily	56	93%*	93%*	90%*
	Placebo	55	31%	27%	24%
#2	PREVACID 15 mg daily	50	74%*	72%*	67%*
	PREVACID 30 mg daily	49	75%*	72%*	55%*
	Placebo	47	16%	13%	13%

%=Life Table Estimate

* ($p \leq 0.001$) versus placebo.

Regardless of initial grade of erosive esophagitis, PREVACID 15 mg and 30 mg were similar in maintaining remission.

In a U.S., randomized, double-blind, study, PREVACID 15 mg daily ($n = 100$) was compared with ranitidine 150 mg twice daily ($n = 106$), at the recommended dosage, in patients with endoscopically-proven healed erosive esophagitis over a 12 month period. Treatment with PREVACID resulted in patients remaining healed (Grade 0 lesions) of erosive esophagitis for significantly longer periods of time than those treated with ranitidine ($p < 0.001$). In addition, PREVACID was significantly more effective than ranitidine in providing complete relief of both daytime and nighttime heartburn. Patients treated with PREVACID remained asymptomatic for a significantly longer period of time than patients treated with ranitidine [*see Indications and Usage (1.8)*].

Pathological Hypersecretory Conditions Including Zollinger-Ellison Syndrome

In open studies of 57 patients with pathological hypersecretory conditions, such as Zollinger-Ellison syndrome (ZES) with or without multiple endocrine adenomas, PREVACID significantly inhibited gastric acid secretion and controlled associated symptoms of diarrhea, anorexia and pain. Doses ranging from 15 mg every other day to 180 mg per day maintained basal acid secretion below 10 mEq/hr in patients without prior gastric surgery and below 5 mEq/hr in patients with prior gastric surgery.

Initial doses were titrated to the individual patient need, and adjustments were necessary with time in some patients [*see Dosage and Administration (2.1)*]. PREVACID was well tolerated at these high dose levels for prolonged periods (greater than four years in some patients). In most ZES patients, serum gastrin levels were not modified by PREVACID. However, in some patients, serum gastrin increased to levels greater than those present prior to initiation of lansoprazole therapy [*see Indications and Usage (1.9)*].

15 REFERENCES

1. National Committee for Clinical Laboratory Standards. Summary Minutes, Subcommittee on

16 HOW SUPPLIED/STORAGE AND HANDLING

PREVACID SoluTab Delayed-Release Orally Disintegrating Tablets, 15 mg, are white to yellowish white uncoated tablets with orange to dark brown speckles, with "15" debossed on one side of the tablet. The 30 mg are white to yellowish white uncoated tablets with orange to dark brown speckles, with "30" debossed on one side of the tablet. The tablets are available as follows:

Overbagged with 10 tablets per bag, NDC 55154-0253-0

Store at 25°C (77°F); excursions permitted to 15-30°C (59-86°F)[see USP Controlled Room Temperature].

17 PATIENT COUNSELING INFORMATION

Advise the patient to read the FDA-approved patient labeling (Medication Guide and Instructions for Use).

Adverse Reactions

Advise patients to report to their healthcare provider if they experience any signs or symptoms consistent with:

- Hypersensitivity Reactions [see Contraindications (4)]
- Acute Interstitial Nephritis [see Warnings and Precautions (5.2)]
- *Clostridium difficile*-Associated Diarrhea [see Warnings and Precautions (5.3)]
- Bone Fracture [see Warnings and Precautions (5.4)]
- Cutaneous and Systemic Lupus Erythematosus [see Warnings and Precautions (5.5)]
- Cyanocobalamin (Vitamin B-12) Deficiency [see Warnings and Precautions (5.6)]
- Hypomagnesemia [see Warnings and Precautions (5.7)]

Administration

PREVACID is available as a capsule and as an orally disintegrating tablet (SoluTab). Both are available in 15 mg and 30 mg strengths. Directions for use specific to the route and available methods of administration for each of these dosage forms is presented below [see Dosage and Administration (2.3)].

- PREVACID should be taken before eating.
- PREVACID capsule and SoluTab SHOULD NOT BE CRUSHED OR CHEWED.
- **Phenylketonurics: Contains Phenylalanine 2.5 mg per 15 mg Tablet and 5.1 mg per 30 mg Tablet.**

Administration Options

1. PREVACID Capsules – Oral Administration

USE IN OTHER FOODS AND LIQUIDS HAS NOT BEEN STUDIED CLINICALLY AND IS THEREFORE NOT RECOMMENDED.

- PREVACID capsules should be swallowed whole.
- Alternatively, for patients who have difficulty swallowing capsules, PREVACID capsules can be opened and administered as follows:
 - Open capsule.

- Sprinkle intact granules on one tablespoon of either applesauce, ENSURE pudding, cottage cheese, yogurt or strained pears.
 - Swallow immediately.
- PREVACID capsules may also be emptied into a small volume of either apple juice, orange juice or tomato juice and administered as follows:
PREVACID Capsules – Nasogastric Tube (≥16 French) Administration
 - Open capsule.
 - Sprinkle intact granules into a small volume of either apple juice, orange juice or tomato juice (60 mL – approximately 2 ounces).
 - Mix briefly.
 - Swallow immediately.
 - To ensure complete delivery of the dose, the glass should be rinsed with two or more volumes of juice and the contents swallowed immediately.
 - For patients who have a nasogastric tube in place, PREVACID capsules can be administered as follows:
 - Open capsule.
 - Mix intact granules into 40 mL of apple juice. DO NOT USE OTHER LIQUIDS.
 - Inject through the nasogastric tube into the stomach.
 - Flush with additional apple juice to clear the tube.

2. *PREVACID SoluTab*

- PREVACID SoluTab should not be broken or cut.
- PREVACID SoluTab should not be chewed.
 - Place the tablet on the tongue and allow it to disintegrate, with or without water, until the particles can be swallowed.
 - The tablet typically disintegrates in less than one minute.
 - Alternatively, for children or other patients who have difficulty swallowing tablets, PREVACID SoluTab can be delivered in two different ways.
PREVACID SoluTab – Oral Syringe
For administration via oral syringe, PREVACID SoluTab can be administered as follows:
PREVACID SoluTab – Nasogastric Tube (≥8 French) Administration
For administration via a nasogastric tube, PREVACID SoluTab can be administered as follows:
 - Place a 15 mg tablet in oral syringe and draw up 4 mL of water, or place a 30 mg tablet in oral syringe and draw up 10 mL of water.
 - Shake gently to allow for a quick dispersal.
 - After the tablet has dispersed, administer the contents within 15 minutes.
 - Refill the syringe with approximately 2 mL (5 mL for the 30 mg tablet) of water, shake gently, and administer any remaining contents.
 - Place a 15 mg tablet in a syringe and draw up 4 mL of water, or place a 30 mg tablet in a syringe and draw up 10 mL of water.
 - Shake gently to allow for a quick dispersal.

- After the tablet has dispersed, inject through the nasogastric tube into the stomach within 15 minutes.
- Refill the syringe with approximately 5 mL of water, shake gently, and flush the nasogastric tube.

MEDICATION GUIDE

PREVACID (prev-a-sid)

(lansoprazole)

Delayed-Release Capsules

and

PREVACID SoluTab (prev-a-sid sol-u-tab)

(lansoprazole)

Delayed-Release Orally Disintegrating Tablets

Read this Medication Guide before you start taking PREVACID capsule or SoluTab, and each time you get a refill. There may be new information. This information does not take the place of talking to your doctor about your medical condition or your treatment.

What is the most important information that I should know about PREVACID?

PREVACID may help your acid-related symptoms, but you could still have serious stomach problems. Talk with your doctor.

PREVACID can cause serious side effects, including:

- **A type of kidney problem (acute interstitial nephritis).** Some people who take proton pump inhibitor (PPI) medicines, including PREVACID, may develop a kidney problem called acute interstitial nephritis, that can happen at any time during treatment with PPI medicines. Call your doctor right away if you have a decrease in the amount that you urinate or if you have blood in your urine.
- **Diarrhea.** PREVACID may increase your risk of getting severe diarrhea. This diarrhea may be caused by an infection (*Clostridium difficile*) in your intestines. Call your doctor right away if you have watery stool, stomach pain, and fever that does not go away.
- **Bone fractures.** People who take multiple daily doses of PPI medicines for a long period of time (a year or longer) may have an increased risk of fractures of the hip, wrist or spine. You should take PREVACID exactly as prescribed, at the lowest dose possible for your treatment and for the shortest time needed. Talk to your doctor about your risk of bone fracture if you take PREVACID.
- **Certain types of lupus erythematosus.** Lupus erythematosus is an autoimmune disorder (the body's immune cells attack other cells or organs in the body). Some people who take PPI medicines, including PREVACID, may develop certain types of lupus erythematosus or have worsening of the lupus they already have. Call your doctor right away if you have new or worsening joint pain or a rash on your cheeks or arms that gets worse in the sun.

PREVACID can have other serious side effects. See "**What are the possible side effects of PREVACID?**"

What is PREVACID?

PREVACID is a prescription medicine called a proton pump inhibitor (PPIs). PREVACID reduces the amount of acid in your stomach.

PREVACID is used in adults:

- for 4 weeks for the healing and symptom relief of duodenal ulcers. The duodenal area is the area where food passes when it leaves the stomach.
- with certain antibiotics to treat an infection called H. pylori. Sometimes H. pylori bacteria can cause duodenal ulcers. The infection needs to be treated to prevent ulcers from coming back.
- for continued healing of duodenal ulcers.
- for up to 8 weeks to heal stomach ulcers.
- for up to 8 weeks to heal stomach ulcers in some people taking pain medicines called non-steroidal anti-inflammatory drugs (NSAIDs).
- for reducing the risk of stomach ulcers in some people taking NSAIDs.
- for up to 8 weeks for the relief of heartburn and other symptoms of gastroesophageal reflux disease (GERD).
GERD happens when acid in your stomach backs up into the tube (esophagus) that connects your mouth to your stomach. This may cause a burning feeling in your chest or throat, sour taste or burping.
- for 8 weeks to heal the acid-related damage to the lining of the esophagus (called erosive esophagitis) and to relieve symptoms. If needed, your doctor may prescribe another 8 weeks of PREVACID.
- for continued healing of erosive esophagitis.
- for the long-term treatment of conditions where your stomach makes too much acid. This includes a condition called Zollinger-Ellison syndrome.

PREVACID is used in children and adolescents (ages 1 to 17):

- for up to 12 weeks to treat GERD and erosive esophagitis in children 1 to 11 years old.
- for up to 8 weeks to treat GERD and erosive esophagitis in adolescents 12 to 17 years old.

PREVACID is not effective for symptoms of GERD in children under the age of 1 year.

Who should not take PREVACID?

- Do not take PREVACID if you are allergic to lansoprazole or any of the other ingredients in PREVACID. See the end of this Medication Guide for a complete list of ingredients in PREVACID.

What should I tell my doctor before taking PREVACID?

Before you take PREVACID, tell your doctor if you:

- have been told that you have low magnesium levels in your blood.
- have liver problems
- have phenylketonuria. PREVACID SoluTab contains aspartame.
- have any other medical conditions
- are pregnant or plan to become pregnant. It is not known if PREVACID will harm your unborn baby.
- are breastfeeding or plan to breastfeed. It is not known if PREVACID passes into your breast milk. You and your doctor should decide if you will take PREVACID or breastfeed. You should not do both. Talk to your doctor about the best way to feed your baby if you take PREVACID.

Tell your doctor about all the medicines you take, including prescription and non-prescription drugs, vitamins, and herbal supplements. PREVACID may affect how other medicines work, and other medicines may affect how PREVACID works.

Especially tell your doctor if you take:

- atazanavir (Reyataz)
- nelfinavir (Viracept)
- erlotinib (Tarceva)
- digoxin (Lanoxin)
- a product that contains iron
- ketoconazole (Nizoral)
- warfarin (Coumadin, Jantoven)
- tacrolimus (Prograf)
- theophylline (Theo-24, Elixophyllin, Theochron, Theolair)
- an antibiotic that contains ampicillin or clarithromycin
- methotrexate
- mycophenolate mofetil (Cellcept)

Ask your doctor or pharmacist for a list of these medicines if you are not sure.

Know the medicines that you take. Keep a list of them to show your doctor and pharmacist when you get a new medicine.

How should I take PREVACID?

- Take PREVACID exactly as prescribed by your doctor.
- Do not change your dose or stop taking PREVACID without talking to your doctor.
- You should take PREVACID before eating.
- **PREVACID capsules:**
 - You should swallow PREVACID capsules whole.
 - **Do not crush or chew PREVACID capsules.**
 - If you have trouble swallowing a whole capsule, you can open the capsule and take the contents with certain foods or juices. See the "Instructions for Use" at the end of this Medication Guide for instructions on how to take PREVACID capsules with certain foods and juices.
 - See the "Instructions for Use" at the end of this Medication Guide for instructions on how to mix and give PREVACID capsules through a nasogastric tube.
- **PREVACID SoluTab:**
 - is a tablet that melts in your mouth with or without water.
 - **Do not break, cut or chew the tablets.**
 - See the "Instructions for Use" at the end of this Medication Guide for instructions on how to mix and give PREVACID SoluTab tablets through a syringe and nasogastric tube.
- If you miss a dose, take it as soon as you remember. If it is almost time for your next dose, skip the missed dose. Just take the next dose at your regular time. Do not take 2 doses at the same time.
- If you take too much PREVACID, call your doctor right away.

What are the possible side effects of PREVACID?

PREVACID can cause serious side effects, including:

- See "**What is the most important information that I should know about PREVACID?**"
- **Vitamin B-12 deficiency.** PREVACID and PREVACID SoluTab reduce the amount of acid in your stomach. Stomach acid is needed to absorb vitamin B-12 properly. Talk with your doctor about the possibility of vitamin B-12 deficiency if you have been on PREVACID for a long time (more than 3 years).
- **Low magnesium levels in your body.** This problem can be serious. Low magnesium can happen in some people who take a PPI medicine for at least 3 months. If low magnesium levels happen, it is usually after a year of treatment. You may or may not have symptoms of low magnesium. Tell your doctor right away if you develop any of these symptoms:
 - seizures
 - dizziness
 - abnormal or fast heartbeat
 - jitteriness
 - jerking movements or shaking (tremors)
 - muscle weakness
 - spasms of the hands and feet
 - cramps or muscle aches
 - spasm of the voice box

Your doctor may check the level of magnesium in your body before you start taking PREVACID, or during treatment; if you will be taking PREVACID for a long period of time.

The most common side effects of PREVACID in adults and children include:

- diarrhea
- stomach pain
- nausea
- constipation
- headache

Other side effects:

- **Serious allergic reactions.** Tell your doctor if you get any of the following symptoms with PREVACID.
 - rash
 - face swelling
 - throat tightness
 - difficulty breathing

Your doctor may stop PREVACID if these symptoms happen.

Tell your doctor if you have any side effect that bothers you or that does not go away.

These are not all the possible side effects of PREVACID. For more information, ask your doctor or pharmacist. Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.

How should I store PREVACID?

- Store PREVACID at room temperature between 68°F to 77°F (20°C to 25°C).

Keep PREVACID and all medicines out of the reach of children.

General information about PREVACID

Medicines are sometimes prescribed for conditions other than those listed in a Medication Guide. Do not use PREVACID for conditions for which it was not prescribed. Do not give PREVACID to other people, even if they have the same symptoms you have. It may harm them.

This Medication Guide summarizes the most important information about PREVACID . If you would like more information, talk with your doctor. You can ask your doctor or pharmacist for information about PREVACID that is written for healthcare professionals.

For more information go to www.PREVACID.com or call 1-877-825-3327.

What are the ingredients in PREVACID?

Active ingredient: lansoprazole.

Inactive ingredients in PREVACID capsules:

Sugar sphere, sucrose, methacrylic acid copolymer, low substituted hydroxypropyl cellulose, starch, magnesium carbonate, talc, polyethylene glycol, titanium dioxide, polysorbate 80, hydroxypropyl cellulose, colloidal silicon dioxide, D&C Red No. 28, FD&C Blue No. 1, and FD&C Red No. 40.

In addition PREVACID 15 mg Capsule only: FD&C Green No. 3.

Inactive ingredients in PREVACID SoluTab:

Mannitol, methacrylic acid, hydroxypropyl cellulose, lactose monohydrate-microcrystalline cellulose sphere, triethyl citrate, crospovidone, polyacrylate, magnesium carbonate, aspartame, glyceryl monostearate, hypromellose, magnesium stearate, citric acid, titanium dioxide, talc, artificial strawberry flavor, polyethylene glycol, polysorbate 80 and ferric oxide.

PREVACID SoluTab contains phenylalanine 2.5 mg per 15 mg Tablet and 5.1 mg per 30 mg Tablet.

This Medication Guide has been approved by the U.S. Food and Drug Administration.

Revised: October 2016

PRV012 R47

Instructions for Use

PREVACID (prev-a-sid)

(lansoprazole)

Delayed-Release Capsules

and

PREVACID SoluTab (prev-a-sid sol-u-tab)

(lansoprazole)

Delayed-Release Orally Disintegrating Tablets

PREVACID Delayed-Release Capsules (PREVACID capsules)

- Swallow PREVACID capsules whole. Do not crush or chew them.
- You should take PREVACID before eating.
- **PREVACID capsule with certain food:**
You can only use applesauce, ENSURE pudding, cottage cheese, yogurt or strained pears.
 - Open the capsule.
 - Sprinkle the granules on 1 tablespoon of either applesauce, ENSURE pudding, cottage

cheese, yogurt or strained pears.

- Swallow right away.

- **PREVACID capsule with certain juices:**

You can only use apple juice, orange juice or tomato juice.

PREVACID capsules through a nasogastric tube (NG tube) 16 French or larger, as prescribed by your doctor:

You can only use apple juice.

PREVACID should not be used in foods or liquids not listed above.

- Open the capsule.
- Sprinkle the granules into 60 mL (about ¼ cup) of either apple juice, orange juice or tomato juice.
- Stir.
- Swallow right away.
- To make sure that the entire dose is taken, rinse the glass with 1/2 cup or more of juice to get out any leftover granules. Swallow the juice right away.
- Open the capsule and empty the granules into a syringe.
- Do not break or crush the granules.
- Mix with 40 mL of apple juice. **Do not use other liquids.**
- Attach the syringe to the NG tube and give the medicine in the syringe through the NG tube into the stomach.
- After giving the granules, flush the NG tube with more apple juice to clear the tube.

- **PREVACID SoluTab Delayed-Release Orally Disintegrating Tablets (PREVACID SoluTab)**

- Do not chew, crush, cut or break tablets.
- Put the tablet on the tongue and let it dissolve, with or without water.
- Swallow after the tablet dissolves.
- The tablet usually dissolves in less than 1 minute.

- **PREVACID SoluTab with an oral syringe:**

- Put a 15 mg tablet in an oral syringe and add 4 mL of water, or put a 30 mg tablet in an oral syringe and add 10 mL of water.
- Shake the syringe gently to dissolve the tablet quickly.
- After the tablet has dissolved, give the mixture within 15 minutes.
- To make sure that the entire dose is taken, refill the syringe with about 2 mL (5 mL for the 30 mg tablet) of water, shake gently, and give the water in the syringe.

- **PREVACID SoluTab through a nasogastric tube (NG tube) 8 French or larger, as prescribed by your doctor:**

- Put a 15 mg tablet in a syringe and add 4 mL of water, or put a 30 mg tablet in a syringe and add 10 mL of water.
- Shake the syringe gently to dissolve the tablet quickly.
- After the tablet has dissolved, give the mixture in the syringe through the NG tube into the stomach within 15 minutes.
- Refill the syringe with about 5 mL of water, shake gently, and flush the NG tube.

How should I store PREVACID?

- Store PREVACID and PREVACID SoluTab at room temperature between 68°F to 77°F (20°C to 25°C).

Keep PREVACID and all medicines out of the reach of children.

This Instruction for Use has been approved by the U.S. Food and Drug Administration.

Distributed by:

Takeda Pharmaceuticals America, Inc.

Deerfield, IL 60015

Repackaged By:

Cardinal Health

Zanesville, OH 43701

L37412610717

Revised: October 2016

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All other trademark names are the property of their respective owners.

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PRV012 R47

Package/Label Display Panel

PREVACID Solutab 30 mg

Lansoprazole

Delayed-Release Orally Disintegrating Tablets

10 Tablets



NDC 55154-0253-0

M55

PREVACID Solutab 30 mg
 Lansoprazole
 Delayed-Release Orally Disintegrating Tablets
10 TABLETS

Each tablet contains: 30 mg lansoprazole as enteric-coated microgranules.
 Phenylketonurics: Contains Phenylalanine 5.1 mg Per Tablet.
 See product insert for complete prescribing information, precautions and warnings.
 STORAGE: Store at 25 C (77 F); excursions permitted to 15 - 30 C (59 - 86 F). [See USP Controlled Room Temperature]
RX ONLY

Dispense the Medication Guide to each patient.

WARNING: This Unit Dose package is not child resistant and is intended for Institutional Use Only.
 Keep this and all drugs out of the reach of children.

PACKAGE NOT CHILD-RESISTANT
 Dispense in a child-resistant container-closure package.

Distributed by
 Takeda Pharmaceuticals America, Inc.
 Deerfield, IL 60015
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 Repackaged by Cardinal Health
 Zanesville, OH 43701
 L37412610717

LOT#: XXXX



EXP. DATE: 12/34



PREVACID			
lansoprazole tablet, orally disintegrating, delayed release			
Product Information			
Product Type	HUMAN PRESCRIPTION DRUG	Item Code (Source)	NDC:55154-0253(NDC:64764-544)
Route of Administration	ORAL		
Active Ingredient/Active Moiety			

Ingredient Name	Basis of Strength	Strength
lansoprazole (UNII: 0K5C5T2QPG) (lansoprazole - UNII:0K5C5T2QPG)	lansoprazole	30 mg

Inactive Ingredients

Ingredient Name	Strength
mannitol (UNII: 3OWL53L36A)	
methacrylic acid (UNII: 1CS02G8656)	
HYDROXYPROPYL CELLULOSE (1200000 MW) (UNII: RFW2ET671P)	
lactose monohydrate (UNII: EWQ57Q8I5X)	
MICROCRYSTALLINE CELLULOSE (UNII: OP1R32D61U)	
triethyl citrate (UNII: 8Z96QXD6UM)	
CROSPVIDONE (15 MPAS AT 5%) (UNII: 68401960MK)	
magnesium carbonate (UNII: 0E53J927NA)	
aspartame (UNII: Z0H242BBR1)	
glyceryl monostearate (UNII: 230OU9XXE4)	
HYPROMELLOSE, UNSPECIFIED (UNII: 3NXW29V3WO)	
magnesium stearate (UNII: 70097M6I30)	
citric acid monohydrate (UNII: 2968PHW8QP)	
titanium dioxide (UNII: 15FIX9V2JP)	
talc (UNII: 7SEV7J4RIU)	
POLYETHYLENE GLYCOL, UNSPECIFIED (UNII: 3WJQ0SDW1A)	
polysorbate 80 (UNII: 6OZP39ZG8H)	
ferric oxide red (UNII: 1K09F3G675)	
phenylalanine (UNII: 47E5017Y3R)	5.1 mg

Product Characteristics

Color	WHITE (white to yellowish white uncoated tablets with orange to dark brown speckles)	Score	no score
Shape	ROUND (Tablet)	Size	12mm
Flavor	STRAWBERRY	Imprint Code	30
Contains			

Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:55154-0253-0	10 in 1 BAG	08/30/2002	
1		1 in 1 BLISTER PACK; Type 0: Not a Combination Product		

Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
NDA	NDA021428	08/30/2002	

Labeler - Cardinal Health (188557102)

Establishment

Name	Address	ID/FEI	Business Operations
Cardinal Health		188557102	REPACK(55154-0253)

Revised: 8/2017

Cardinal Health