TEMODAR- temozolomide capsule
TEMODAR- temozolomide injection, powder, lyophilized, for solution
Merck Sharp & Dohme LLC

HIGHLIGHTS OF PRESCRIBING INFORMATION
These highlights do not include all the information needed to use TEMODAR safely and effectively. See full prescribing information for TEMODAR.

TEMODAR® (temozolomide) capsules, for oral use
TEMODAR® (temozolomide) for injection, for intravenous use
Initial U.S. Approval: 1999

RECENT MAJOR CHANGES

Indications and Usage (1.2)	9/2023
Dosage and Administration (2.1, 2.2, 2.3, 2.4)	9/2023
Contraindications (4)	9/2023
Warnings and Precautions (5.1, 5.2, 5.4, 5.5, 5.6)	9/2023

INDICATIONS AND USAGE

TEMODAR is an alkylating drug indicated for the treatment of adults with:

- Newly diagnosed glioblastoma concomitantly with radiotherapy and then as maintenance treatment. (1.1)
- Anaplastic astrocytoma. (1.2)
  - Adjuvant treatment of adults with newly diagnosed anaplastic astrocytoma. (1.2)
  - Treatment of adults with refractory anaplastic astrocytoma. (1.2)

DOSAGE AND ADMINISTRATION

- Administer either orally or intravenously. (2.4)
- Newly Diagnosed Glioblastoma:
  - 75 mg/m^2 once daily for 42 to 49 days concomitant with focal radiotherapy followed by initial maintenance dose of 150 mg/m^2 once daily for Days 1 to 5 of each 28-day cycle for 6 cycles. May increase maintenance dose to 200 mg/m^2 for Cycles 2 to 6 based on toxicity. (2.1)
  - Provide *Pneumocystis* pneumonia (PCP) prophylaxis during concomitant phase and continue in patients who develop lymphopenia until resolution to Grade 1 or less. (2.1)
- Adjuvant Treatment of Newly Diagnosed Anaplastic Astrocytoma: Beginning 4 weeks after the end of radiotherapy, administer TEMODAR orally in a single dose on days 1-5 of a 28-day cycle for 12 cycles. The recommended dosage for Cycle 1 is 150 mg/m^2 per day and for Cycles 2 to 12 is 200 mg/m^2 if patient experienced no or minimal toxicity in Cycle 1. (2.2)
- Refractory Anaplastic Astrocytoma: Initial dose of 150 mg/m^2 once daily on Days 1 to 5 of each 28-day cycle. (2.2)

DOSAGE FORMS AND STRENGTHS

- Capsules: 5 mg, 20 mg, 100 mg, 140 mg, 180 mg, and 250 mg. (3)
- For injection: 100 mg as a lyophilized powder in single-dose vial for reconstitution. (3)

CONTRAINDICATIONS

- History of serious hypersensitivity to temozolomide or any other ingredients in TEMODAR and dacarbazine. (4)

WARNINGS AND PRECAUTIONS

- Myelosuppression: Monitor absolute neutrophil count (ANC) and platelet count prior to each cycle and during treatment. Geriatric patients and women have a higher risk of developing myelosuppression. (5.1, 8.5)
- Hepatotoxicity: Fatal and severe hepatotoxicity have been reported. Perform liver tests at baseline, midway through the first cycle, prior to each subsequent cycle, and approximately 2 to 4 weeks after the last dose of TEMODAR. (5.2)

- *Pneumocystis* Pneumonia (PCP): Closely monitor all patients, particularly those receiving steroids, for the development of lymphopenia and PCP. (5.3)
- Secondary Malignancies: Myelodysplastic syndrome and secondary malignancies, including myeloid leukemia, have been observed. (5.4)
- Embryo-Fetal Toxicity: Can cause fetal harm. Advise females of reproductive potential of the potential risk to a fetus and to use effective contraception. Advise male patients with pregnant partners or female partners of reproductive potential to use condoms. (5.5, 8.1, 8.3)
- Exposure to Opened Capsules: TEMODAR capsules should not be opened, chewed, or dissolved but should be swallowed whole with a glass of water. (5.6)

ADVERSE REACTIONS

- The most common adverse reactions (≥20%) are: alopecia, fatigue, nausea, vomiting, headache, constipation, anorexia, and convulsions. (6.1)
- The most common Grade 3 to 4 hematologic laboratory abnormalities (≥10%) in patients with anaplastic astrocytoma are: decreased lymphocytes, decreased platelets, decreased neutrophils, and decreased leukocytes. (6.1)

To report SUSPECTED ADVERSE REACTIONS, contact Merck Sharp & Dohme LLC at 1-877-888-4231 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

USE IN SPECIFIC POPULATIONS

- Lactation: Advise not to breastfeed. (8.2)

See 17 for PATIENT COUNSELING INFORMATION and FDA-approved patient labeling.

Revised: 9/2023

FULL PRESCRIBING INFORMATION: CONTENTS*

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

FULL PRESCRIBING INFORMATION

1 INDICATIONS AND USAGE

1.1 Newly Diagnosed Glioblastoma

TEMODAR is indicated for the treatment of adults with newly diagnosed glioblastoma, concomitantly with radiotherapy and then as maintenance treatment.

1.2 Anaplastic Astrocytoma

TEMODAR is indicated for the:

- adjuvant treatment of adults with newly diagnosed anaplastic astrocytoma;
- treatment of adults with refractory anaplastic astrocytoma.

2 DOSAGE AND ADMINISTRATION

2.1 Monitoring to Inform Dosage and Administration

Prior to dosing, withhold TEMODAR until patients have an absolute neutrophil count (ANC) of 1.5 x 10^9/L or greater and a platelet count of 100 x 10^9/L or greater.

For concomitant radiotherapy, obtain a complete blood count prior to initiation of treatment and weekly during treatment.

For the 28-day treatment cycles, obtain a complete blood count prior to treatment on Day 1 and on Day 22 of each cycle. Perform complete blood counts weekly until recovery if the ANC falls below 1.5 x 10^9/L and the platelet count falls below 100 x 10^9/L.

For concomitant use with focal radiotherapy, obtain a complete blood count weekly and as clinically indicated.

2.2 Recommended Dosage and Dosage Modifications for Newly Diagnosed Glioblastoma

Administer TEMODAR either orally or intravenously once daily for 42 to 49 consecutive days during the concomitant use phase with focal radiotherapy, and then once daily on Days 1 to 5 of each 28-day cycle for 6 cycles during the maintenance use phase.

Provide *Pneumocystis* pneumonia (PCP) prophylaxis during the concomitant use phase and continue in patients who develop lymphopenia until resolution to Grade 1 or less *[see Warnings and Precautions (5.3)]*.

Concomitant Use Phase:

The recommended dosage of TEMODAR is 75 mg/m^2 either orally or intravenously once daily for 42 to 49 days in combination with focal radiotherapy. Focal radiotherapy includes the tumor bed or resection site with a 2 to 3 cm margin.

Other administration schedules have been used.

Obtain a complete blood count weekly. The recommended dosage modifications due to adverse reactions during concomitant use phase are provided in **Table 1**.

TABLE 1: Dosage Modifications Due to Adverse Reactions During Concomitant Use Phase

Adverse Reaction	Interruption	Discontinuation
Absolute Neutrophil Count	Withhold TEMODAR if ANC is greater than or equal to 0.5 × 10^9/L and less than 1.5 × 10^9/L. Resume TEMODAR at the same dose when ANC is greater than or equal to 1.5 × 10^9/L.	Discontinue TEMODAR if ANC is less than 0.5 × 10^9/L.
Platelet Count	Withhold TEMODAR if platelet count is greater than or equal to 10 × 10^9/L and less than 100 × 10^9/L. Resume TEMODAR at the same dose when platelet count is greater than or	Discontinue TEMODAR if platelet count is less than 10 × 10^9/L.

	equal to 100 × 10^9/L.	
Non-hematological Adverse Reaction (except for alopecia, nausea, vomiting)	Withhold TEMODAR if Grade 2 adverse reaction occurs. Resume TEMODAR at the same dose when resolution to Grade 1 or less.	Discontinue TEMODAR if Grade 3 or 4 adverse reaction occurs.

Single Agent Maintenance Use Phase:

Beginning 4 weeks after concomitant use phase completion, administer TEMODAR either orally or intravenously once daily on Days 1 to 5 of each 28-day cycle for 6 cycles. The recommended dosage of TEMODAR in the maintenance use phase is:

- Cycle 1: 150 mg/m^2 per day on days 1 to 5.
- Cycles 2 to 6: May increase to 200 mg/m^2 per day on days 1 to 5 before starting Cycle 2 if no dosage interruptions or discontinuations are required (Table 1). If the dose is not escalated at the onset of Cycle 2, **do not** increase the dose for Cycles 3 to 6.

Obtain a complete blood count on Day 22 and then weekly until the ANC is above 1.5 × 10^9/L and the platelet count is above 100 × 10^9/L. Do not start the next cycle until the ANC and platelet count exceed these levels.

The recommended dosage modifications due to adverse reactions during the maintenance use phase are provided in **Table 2**.

If TEMODAR is withheld, reduce the dose for the next cycle by 50 mg/m^2 per day. Permanently discontinue TEMODAR in patients who are unable to tolerate a dose of 100 mg/m^2 per day.

TABLE 2: Dosage Modifications Due to Adverse Reactions During Maintenance and Adjuvant Treatment

Adverse Reactions	Interruption and Dose Reduction	Discontinuation
Absolute Neutrophil Count	Withhold TEMODAR if ANC less than 1 × 10^9/L. When ANC is above 1.5 × 10^9/L, resume TEMODAR at reduced dose for the next cycle.	Discontinue TEMODAR if unable to tolerate a dose of 100 mg/m^2 per day.
	Withhold TEMODAR if platelet less than 50 × 10^9/L.	Discontinue TEMODAR if unable to tolerate a dose of 100 mg/m^2 per day.

Platelet Count	When platelet count is above 100 × 10^9/L, resume TEMODAR at reduced dose for the next cycle.	
Nonhematological Adverse Reactions (except for alopecia, nausea, vomiting)	Withhold TEMODAR if Grade 3 adverse reaction occurs. When resolved to Grade 1 or less, resume TEMODAR at reduced dose for the next cycle.	Discontinue TEMODAR if recurrent Grade 3 adverse reaction occurs after dose reduction, if Grade 4 adverse reaction occurs, or if unable to tolerate a dose of 100 mg/m^2 per day.

2.3 Recommended Dosage and Dosage Modifications for Anaplastic Astrocytoma

Adjuvant Treatment of Newly Diagnosed Anaplastic Astrocytoma

Beginning 4 weeks after the end of radiotherapy, administer TEMODAR orally in a single dose on days 1 to 5 of a 28-day cycle for 12 cycles. The recommended dosage of TEMODAR is:

- Cycle 1: 150 mg/m^2 per day on days 1 to 5.
- Cycles 2 to 12: 200 mg/m^2 per day on days 1 to 5 if patient experienced no or minimal toxicity in Cycle 1. If the dose was not escalated at the onset of Cycle 2, **do not** increase the dose during Cycles 3 to 6.

The recommended complete blood count testing and dosage modifications due to adverse reactions during adjuvant treatment are provided above and in Table 2 *[see Dosage and Administration (2.2)]*.

Refractory Anaplastic Astrocytoma

The recommended initial dosage of TEMODAR is 150 mg/m^2 once daily on Days 1 to 5 of each 28-day cycle. Increase the TEMODAR dose to 200 mg/m^2 per day if the following conditions are met at the nadir and on Day 1 of the next cycle:

- ANC is greater than or equal to 1.5 × 10^9/L, and
- Platelet count is greater than or equal to 100 × 10^9/L.

Continue TEMODAR until disease progression or unacceptable toxicity.

Obtain a complete blood count on Day 22 and then weekly until the ANC is above 1.5 x 10^9/L and the platelet count is above 100 x 10^9/L. Do not start the next cycle until the ANC and platelet count exceed these levels.

If the ANC is less than 1×10^9/L or the platelet count is less than 50×10^9/L during any cycle, reduce the TEMODAR dose for the next cycle by 50 mg/m^2 per day. Permanently discontinue TEMODAR in patients who are unable to tolerate a dose of 100 mg/m^2 per day.

2.4 Preparation and Administration

TEMODAR is a hazardous drug. Follow applicable special handling and disposal procedures.[1]

TEMODAR capsules

Take TEMODAR at the same time each day. Administer TEMODAR consistently with respect to food (fasting vs. nonfasting) *[see Clinical Pharmacology (12.3)]*. To reduce nausea and vomiting, take TEMODAR on an empty stomach or at bedtime and consider antiemetic therapy prior to and following TEMODAR administration.

Swallow TEMODAR capsules whole with water. Advise patients not to open, chew, or dissolve the contents of the capsules *[see Warnings and Precautions (5.6)]*.

If capsules are accidentally opened or damaged, take precautions to avoid inhalation or contact with the skin or mucous membranes. In case of powder contact, wash the affected area with water immediately.

TEMODAR for injection

Bring the vial to room temperature prior to reconstitution with Sterile Water for Injection.

Reconstitute the vial with 41 mL of Sterile Water for Injection to yield a TEMODAR solution with a concentration of 2.5 mg/mL temozolomide. Reconstituted TEMODAR is a clear solution and essentially free of visible particles.

Gently swirl vial. Do not shake.

Parenteral drug products should be inspected visually for particulate matter and discoloration prior to administration, whenever solution and container permit. Discard if particulate matter or discoloration is observed.

Do not further dilute the reconstituted solution.

Store reconstituted solution at room temperature (25°C [77°F]). Discard reconstituted solution if not used within 14 hours, including infusion time.

Withdraw up to 40 mL from each vial to make up the total dose and discard any unused portion. Transfer reconstituted solution from each vial into an empty 250 mL infusion bag.

Administer reconstituted solution using a pump over a period of 90 minutes. Administer TEMODAR by intravenous infusion only. Infusion over a shorter or longer period of time may result in suboptimal dosing. Flush the lines before and after each infusion. TEMODAR for injection may be administered in the same intravenous line with 0.9% Sodium Chloride injection only.

Because no data are available on the compatibility of TEMODAR for injection with other intravenous substances or additives, do not infuse other medications simultaneously through the same intravenous line.

3 DOSAGE FORMS AND STRENGTHS

- Capsules:
  - 5 mg: opaque white bodies with green caps. The capsule body is imprinted with two stripes, the dosage strength, and the Schering-Plough logo. The cap is imprinted with “TEMODAR.”
  - 20 mg: opaque white bodies with yellow caps. The capsule body is imprinted with two stripes, the dosage strength, and the Schering-Plough logo. The cap is imprinted with “TEMODAR.”
  - 100 mg: opaque white bodies with pink caps. The capsule body is imprinted with two stripes, the dosage strength, and the Schering-Plough logo. The cap is imprinted with “TEMODAR.”
  - 140 mg: opaque white bodies with blue caps. The capsule body is imprinted with two stripes, the dosage strength, and the Schering-Plough logo. The cap is imprinted with “TEMODAR.”
  - 180 mg: opaque white bodies with orange caps. The capsule body is imprinted with two stripes, the dosage strength, and the Schering-Plough logo. The cap is imprinted with “TEMODAR.”
  - 250 mg: opaque white bodies with white caps. The capsule body is imprinted with two stripes, the dosage strength, and the Schering-Plough logo. The cap is imprinted with “TEMODAR.”
- For injection: 100 mg white to light tan or light pink lyophilized powder for reconstitution in a single-dose vial.

4 CONTRAINDICATIONS

TEMODAR is contraindicated in patients with a history of serious hypersensitivity reactions to:

- temozolomide or any other ingredients in TEMODAR; and
- dacarbazine, since both temozolomide and dacarbazine are metabolized to the same active metabolite 5-(3-methyltriazen-1-yl)-imidazole-4-carboxamide.

Reactions to TEMODAR have included anaphylaxis *[see Adverse Reactions (6.2)].*

5 WARNINGS AND PRECAUTIONS

5.1 Myelosuppression

Myelosuppression, including pancytopenia, leukopenia, and anemia, some with fatal outcomes, have occurred with TEMODAR *[see Adverse Reactions (6.1, 6.2)]*.

In MK-7365-006, myelosuppression usually occurred during the first few cycles of therapy and was generally not cumulative. The median nadirs occurred at 26 days for platelets (range: 21 to 40 days) and 28 days for neutrophils (range: 1 to 44 days). Approximately 10% of patients required hospitalization, blood transfusion, or discontinuation of therapy due to myelosuppression. Geriatric patients and women have been shown in clinical trials to have a higher risk of developing myelosuppression.

Obtain a complete blood count and monitor ANC and platelet counts before initiation of

treatment and as clinically indicated during treatment. When TEMODAR is used in combination with radiotherapy, obtain a complete blood count prior to initiation of treatment, weekly during treatment, and as clinically indicated *[see Dosage and Administration (2.1, 2.2, 2.3)].*

For severe myelosuppression, withhold TEMODAR and then resume at same or reduced dose, or permanently discontinue, based on occurrence *[see Dosage and Administration (2.1, 2.2, 2.3)]*.

5.2 Hepatotoxicity

Fatal and severe hepatotoxicity have been reported in patients receiving TEMODAR. Perform liver tests at baseline, midway through the first cycle, prior to each subsequent cycle, and approximately two to four weeks after the last dose of TEMODAR.

5.3 *Pneumocystis* Pneumonia

Pneumocystis pneumonia (PCP) has been reported in patients receiving TEMODAR. The risk of PCP is increased in patients receiving steroids or with longer treatment regimens of TEMODAR.

For patients with newly diagnosed glioblastoma, provide PCP prophylaxis for all patients during the concomitant phase. Continue PCP prophylaxis in patients who experience lymphopenia, until resolution to Grade 1 or less *[see Dosage and Administration (2.1)]*.

Monitor all patients receiving TEMODAR for the development of lymphopenia and PCP.

5.4 Secondary Malignancies

The incidence of secondary malignancies is increased in patients treated with TEMODAR-containing regimens. Cases of myelodysplastic syndrome and secondary malignancies, including myeloid leukemia, have been observed following TEMODAR administration.

5.5 Embryo-Fetal Toxicity

Based on findings from animal studies and its mechanism of action, TEMODAR can cause fetal harm when administered to a pregnant woman. Adverse developmental outcomes have been reported in both pregnant patients and pregnant partners of male patients. Oral administration of temozolomide to rats and rabbits during the period of organogenesis resulted in embryolethality and polymalformations at doses less than the maximum human dose based on body surface area.

Advise pregnant women and females of reproductive potential of the potential risk to a fetus. Advise females of reproductive potential to use effective contraception during treatment with TEMODAR and for 6 months after the last dose. Because of potential risk of genotoxic effects on sperm, advise male patients with female partners of reproductive potential to use condoms during treatment with TEMODAR and for 3 months after the last dose. Advise male patients not to donate semen during treatment with TEMODAR and for 3 months after the last dose *[see Use in Specific Populations (8.1, 8.3)].*

5.6 Exposure to Opened Capsules

Advise patients not to open, chew or dissolve the contents of the TEMODAR capsules.

Swallow capsules whole with a glass of water. If a capsule becomes damaged, avoid contact of the powder contents with skin or mucous membranes. In case of powder contact, wash affected area with water immediately *[see Dosage and Administration (2.4)]*. If TEMODAR capsules must be opened or the contents must be dissolved, this should be done by a professional trained in safe handling of hazardous drugs using appropriate equipment and safety procedures.

6 ADVERSE REACTIONS

The following clinically significant adverse reactions are described elsewhere in the labeling:

- Myelosuppression *[see Warnings and Precautions (5.1)]*
- Hepatotoxicity *[see Warnings and Precautions (5.2)]*
- *Pneumocystis* Pneumonia *[see Warnings and Precautions (5.3)]*
- Secondary Malignancies *[see Warnings and Precautions (5.4)]*

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 practice.

Newly Diagnosed Glioblastoma

The safety of TEMODAR was evaluated in study MK-7365-051 *[see Clinical Studies (14.1)].*

Severe or life-threatening adverse reactions occurred in 49% of patients treated with TEMODAR; the most common were fatigue (13%), convulsions (6%), headache (5%), and thrombocytopenia (5%).

The most common adverse reactions (≥20%) in patients treated with TEMODAR were alopecia, fatigue, nausea, anorexia, headache, constipation, and vomiting.

Table 3 summarizes the adverse reactions in MK-7365-051.

TABLE 3: Adverse Reactions (≥10%) in Patients with Newly Diagnosed Glioblastoma

Adverse Reactions	Concomitant Use Phase				Maintenance Use Phase	
	Radiation Therapy and TEMODAR N=288*		Radiation Therapy Alone N=285		TEMODAR N=224	
	All Grades (%)	Grade ≥3 (%)	All Grades (%)	Grades ≥3 (%)	All Grades (%)	Grade ≥3 (%)
Skin and Subcutaneous Tissue						
Alopecia	69	0	63	0	55	0
Rash	19	1	15	0	13	1
General						

Fatigue	54	7	49	5	61	9
Anorexia	19	1	9	<1	27	1
Headache	19	2	17	4	23	4
Gastrointestinal System						
Nausea	36	1	16	<1	49	1
Vomiting	20	<1	6	<1	29	2
Constipation	18	1	6	0	22	0
Diarrhea	6	0	3	0	10	1
Central and Peripheral Nervous System						
Convulsions	6	3	7	3	11	3

NOS = not otherwise specified.
Note: Grade 5 (fatal) adverse reactions are included in the Grade ≥3 column.

* One patient who was randomized to radiation therapy-only arm received radiation therapy and TEMODAR.

Clinically relevant adverse reactions in <10% of patients are presented below:

Central & Peripheral Nervous System: memory impairment, confusion

*Eye: v*ision blurred

Gastrointestinal System: stomatitis, abdominal pain

General: weakness, dizziness

Immune System: allergic reaction

Injury: radiation injury not otherwise specified

Musculoskeletal System: arthralgia

Platelet, Bleeding, & Clotting: thrombocytopenia

Psychiatric: insomnia

Respiratory System: coughing, dyspnea

Special Senses Other: taste perversion

Skin & Subcutaneous Tissue: dry skin, pruritus, erythema

When laboratory abnormalities and adverse reactions were combined, Grade 3 or Grade 4 neutrophil abnormalities including neutropenic reactions were observed in 8% of patients, and Grade 3 or Grade 4 platelet abnormalities including thrombocytopenic reactions were observed in 14% of patients.

Newly Diagnosed Anaplastic Astrocytoma

The safety of TEMODAR for the adjuvant treatment of adults with newly diagnosed anaplastic astrocytoma was derived from published literature *[see Clinical Studies (14.2)].* The safety of TEMODAR for the adjuvant treatment of patients with newly diagnosed anaplastic astrocytoma was consistent with the known safety profile of TEMODAR.

Refractory Anaplastic Astrocytoma

The safety of TEMODAR was evaluated in study MK-7365-006 *[see Clinical Studies (14.2)].*

The most common adverse reactions (≥20%) were nausea, vomiting, headache, fatigue, constipation, and convulsions.

Tables 4 and **5** summarize the adverse reactions and hematological laboratory abnormalities in MK-7365-006.

TABLE 4: Adverse Reactions (≥10%) in Patients with Refractory Anaplastic Astrocytoma

Adverse Reactions	**TEMODAR N=158**	
	All Reactions (%)	**Grades 3-4 (%)**
Gastrointestinal System		
Nausea	53	10
Vomiting	42	6
Constipation	33	1
Diarrhea	16	2
General		
Headache	41	6
Fatigue	34	4
Asthenia	13	6
Fever	13	2
Central and Peripheral Nervous System		
Convulsions	23	5
Hemiparesis	18	6
Dizziness	12	1
Coordination abnormal	11	1
Amnesia	10	4
Insomnia	10	0
Cardiovascular		
Edema peripheral	11	1
Resistance Mechanism		
Infection viral	11	0

Clinically relevant adverse reactions in <10% of patients are presented below:

Central and Peripheral Nervous System: paresthesia, somnolence, paresis, urinary incontinence, ataxia, dysphasia, convulsions local, gait abnormal, confusion

Endocrine: adrenal hypercorticism

Gastrointestinal System: abdominal pain, anorexia

General: back pain

Metabolic: weight increase

Musculoskeletal System: myalgia

Psychiatric: anxiety, depression

Reproductive Disorders: breast pain female

Respiratory System: upper respiratory tract infection, pharyngitis, sinusitis, coughing

Skin & Appendages: rash, pruritus

Urinary System: urinary tract infection, micturition increased frequency

Vision: diplopia, vision abnormal[1]

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1 This term includes blurred vision; visual deficit; vision changes; and vision troubles.

TABLE 5: Grade 3 to 4 Hematologic Laboratory Abnormalities That Worsened from Baseline in Patients with Refractory Anaplastic Astrocytoma

	TEMODAR*,† (%)
Decreased lymphocytes	55
Decreased platelets	19
Decreased neutrophils	14
Decreased leukocytes	11
Decreased hemoglobin	4

* Change from Grade 0 to 2 at baseline to Grade 3 or 4 during treatment.
† Denominator range= 142, 158

Hematological Toxicities for Advanced Gliomas

In clinical trial experience with 110 to 111 females and 169 to 174 males (depending on measurements), females experienced higher rates of Grade 4 neutropenia (ANC $<0.5 \times 10^9$/L) and thrombocytopenia ($<20 \times 10^9$/L) than males in the first cycle of therapy (12% vs. 5% and 9% vs. 3%, respectively).

In the entire safety database for which hematologic data exist (N=932), 7% (4/61) and 10% (6/63) of patients >70 years experienced Grade 4 neutropenia or thrombocytopenia in the first cycle, respectively. For patients ≤70 years, 7% (62/871) and 6% (48/879) experienced Grade 4 neutropenia or thrombocytopenia in the first cycle, respectively. Pancytopenia, leukopenia, and anemia also occurred.

Injection Site Reactions

Adverse reactions that were reported in 35 patients who received TEMODAR for injection were pain, irritation, pruritus, warmth, swelling, and erythema at infusion site; petechiae; and hematoma.

6.2 Postmarketing Experience

The following adverse reactions have been identified during post-approval use of TEMODAR. Because these reactions are reported voluntarily from a population of uncertain size, it is not always possible to reliably estimate their frequency or establish a

causal relationship to the drug exposure.

Dermatologic: Toxic epidermal necrolysis and Stevens-Johnson syndrome.

Immune System: Hypersensitivity reactions, including anaphylaxis. Erythema multiforme, which resolved after discontinuation of TEMODAR and, in some cases, recurred upon rechallenge.

Hematopoietic: Prolonged pancytopenia, which may result in aplastic anemia and fatal outcomes.

Hepatobiliary: Fatal and severe hepatotoxicity, elevation of liver enzymes, hyperbilirubinemia, cholestasis, and hepatitis.

Infections: Serious opportunistic infections, including some cases with fatal outcomes, with bacterial, viral (primary and reactivated), fungal, and protozoan organisms.

Pulmonary: Interstitial pneumonitis, pneumonitis, alveolitis, and pulmonary fibrosis.

Endocrine: Diabetes insipidus.

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Risk Summary

Based on findings from animal studies and its mechanism of action *[see Clinical Pharmacology (12.1)]*, TEMODAR can cause fetal harm when administered to a pregnant woman. Available postmarketing reports describe cases of spontaneous abortions and congenital malformations, including polymalformations with central nervous system, facial, cardiac, skeletal, and genitourinary system anomalies with exposure to TEMODAR during pregnancy. These cases report similar adverse developmental outcomes to those observed in animal studies. Administration of TEMODAR to rats and rabbits during the period of organogenesis caused numerous external, internal, and skeletal malformations at doses less than the maximum human dose based on body surface area *(see Data)*. Advise pregnant women of the potential risk to a fetus.

In the U.S. general population, the estimated background risk of major birth defects and miscarriage in clinically recognized pregnancies is 2% to 4% and 15% to 20%, respectively.

Data

Animal Data

Five consecutive days of oral administration of temozolomide at doses of 75 and 150 mg/m^2 (0.38 and 0.75 times the human dose of 200 mg/m^2) in rats and rabbits, respectively, during the period of organogenesis (Gestation Days 8-12) caused numerous malformations of the external and internal organs and skeleton in both species. In rabbits, temozolomide at the 150 mg/m^2 dose (0.75 times the human dose of 200 mg/m^2) caused embryolethality as indicated by increased resorptions.

8.2 Lactation

There are no data on the presence of TEMODAR or its metabolites in human milk, the

effects on a breastfed child, or the effects on milk production. Because of the potential for serious adverse reactions, including myelosuppression from temozolomide in the breastfed children, advise women not to breastfeed during treatment with TEMODAR and for 1 week after the last dose.

8.3 Females and Males of Reproductive Potential

TEMODAR can cause fetal harm when administered to a pregnant woman *[see Use in Specific Populations (8.1)]*.

Pregnancy Testing

Verify pregnancy status in females of reproductive potential prior to initiating TEMODAR *[see Use in Specific Populations (8.1)]*.

Contraception

Females

Advise females of reproductive potential to use effective contraception during treatment with TEMODAR and for 6 months after the last dose.

Males

Because of the potential for embryofetal toxicity and genotoxic effects on sperm cells, advise male patients with pregnant partners or female partners of reproductive potential to use condoms during treatment with TEMODAR and for 3 months after the last dose *[see Use in Specific Populations (8.1), Nonclinical Toxicology (13.1)]*.

Advise male patients not to donate semen during treatment with TEMODAR and for 3 months after the last dose.

Infertility

TEMODAR may impair male fertility *[see Nonclinical Toxicology (13.1)]*. Limited data from male patients show changes in sperm parameters during treatment with TEMODAR; however, no information is available on the duration or reversibility of these changes.

8.4 Pediatric Use

Safety and effectiveness of TEMODAR have not been established in pediatric patients. Safety and effectiveness of TEMODAR capsules were assessed, but not established, in 2 open-label studies in pediatric patients aged 3 to 18 years. In one study, 29 patients with recurrent brain stem glioma and 34 patients with recurrent high-grade astrocytoma were enrolled. In a second study conducted by the Children's Oncology Group (COG), 122 patients were enrolled, including patients with medulloblastoma/PNET (29), high grade astrocytoma (23), low grade astrocytoma (22), brain stem glioma (16), ependymoma (14), other CNS tumors (9), and non-CNS tumors (9). The adverse reaction profile in pediatric patients was similar to adults.

8.5 Geriatric Use

In MK-7365-051, 15% of patients with newly diagnosed glioblastoma were 65 years and older. This study did not include sufficient numbers of patients aged 65 years and older to determine differences in effectiveness from younger patients. No overall differences in safety were observed between patients ≥65 years and younger patients.

The CATNON trial did not include sufficient numbers of patients aged 65 years and older to determine differences in safety or effectiveness when compared to younger patients.

In MK-7365-006, 4% of patients with refractory anaplastic astrocytoma were 70 years and older. This study did not include sufficient numbers of patients aged 70 years and older to determine differences in effectiveness from younger patients. Patients 70 years and older had a higher incidence of Grade 4 neutropenia (25%) and Grade 4 thrombocytopenia (20%) in the first cycle of therapy than patients less than 70 years of age *[see Warnings and Precautions (5.1), Adverse Reactions (6.1)]*.

In the entire safety database for which hematologic data exist (N=932), 7% (4/61) and 10% (6/63) of patients >70 years experienced Grade 4 neutropenia or thrombocytopenia in the first cycle, respectively. For patients ≤70 years, 7% (62/871) and 6% (48/879) experienced Grade 4 neutropenia or thrombocytopenia in the first cycle, respectively. Pancytopenia, leukopenia, and anemia also occurred.

8.6 Renal Impairment

No dosage adjustment is recommended for patients with creatinine clearance (CLcr) of 36 to 130 mL/min/m^2 *[see Clinical Pharmacology (12.3)]*. The recommended dose of TEMODAR has not been established for patients with severe renal impairment (CLcr <36 mL/min/m^2) or for patients with end-stage renal disease on dialysis.

8.7 Hepatic Impairment

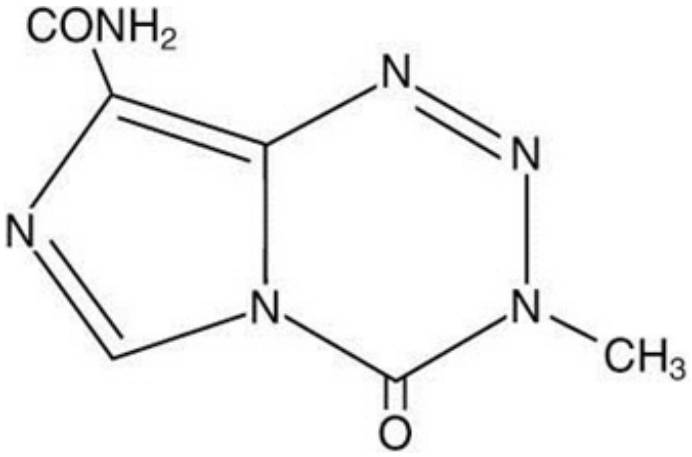
No dosage adjustment is recommended for patients with mild to moderate hepatic impairment (Child Pugh class A and B) *[see Clinical Pharmacology (12.3)]*. The recommended dose of TEMODAR has not been established for patients with severe hepatic impairment (Child-Pugh class C).

10 OVERDOSAGE

Dose-limiting toxicity was myelosuppression and was reported with any dose but is expected to be more severe at higher doses. An overdose of 2000 mg per day for 5 days was taken by one patient and the adverse reactions reported were pancytopenia, pyrexia, multi-organ failure, and death. There are reports of patients who have taken more than 5 days of treatment (up to 64 days), with adverse reactions reported including myelosuppression, which in some cases was severe and prolonged, and infections and resulted in death. In the event of an overdose, monitor complete blood count and provide supportive measures as necessary.

11 DESCRIPTION

Temozolomide is an alkylating drug. The chemical name of temozolomide is 3,4-dihydro-3-methyl-4-oxoimidazo[5,1-d]-*as*-tetrazine-8-carboxamide. The structural formula of temozolomide is:



The material is a white to light tan or light pink powder with a molecular formula of $C_6H_6N_6O_2$ and a molecular weight of 194.15. The molecule is stable at acidic pH (<5) and labile at pH >7; hence TEMODAR can be administered orally and intravenously. The prodrug, temozolomide, is rapidly hydrolyzed to the active 5-(3-methyltriazen-1-yl) imidazole-4-carboxamide (MTIC) at neutral and alkaline pH values, with hydrolysis taking place even faster at alkaline pH.

TEMODAR capsules

TEMODAR (temozolomide) capsules for oral use contains either 5 mg, 20 mg, 100 mg, 140 mg, 180 mg, or 250 mg of temozolomide. The inactive ingredients are as follows:

- *TEMODAR 5 mg:* lactose anhydrous (132.8 mg), colloidal silicon dioxide (0.2 mg), sodium starch glycolate (7.5 mg), tartaric acid (1.5 mg), and stearic acid (3 mg).
- *TEMODAR 20 mg:* lactose anhydrous (182.2 mg), colloidal silicon dioxide (0.2 mg), sodium starch glycolate (11 mg), tartaric acid (2.2 mg), and stearic acid (4.4 mg).
- *TEMODAR 100 mg:* lactose anhydrous (175.7 mg), colloidal silicon dioxide (0.3 mg), sodium starch glycolate (15 mg), tartaric acid (3 mg), and stearic acid (6 mg).
- *TEMODAR 140 mg:* lactose anhydrous (246 mg), colloidal silicon dioxide (0.4 mg), sodium starch glycolate (21 mg), tartaric acid (4.2 mg), and stearic acid (8.4 mg).
- *TEMODAR 180 mg:* lactose anhydrous (316.3 mg), colloidal silicon dioxide (0.5 mg), sodium starch glycolate (27 mg), tartaric acid (5.4 mg), and stearic acid (10.8 mg).
- *TEMODAR 250 mg:* lactose anhydrous (154.3 mg), colloidal silicon dioxide (0.7 mg), sodium starch glycolate (22.5 mg), tartaric acid (9 mg), and stearic acid (13.5 mg).

The body of the capsules is made of gelatin and is opaque white. The cap is also made of gelatin, and the colors vary based on the dosage strength. The capsule body and cap are imprinted with pharmaceutical branding ink, which contains shellac, dehydrated alcohol, isopropyl alcohol, butyl alcohol, propylene glycol, purified water, strong ammonia solution, potassium hydroxide, and ferric oxide.

- *TEMODAR 5 mg:* The green cap contains gelatin, titanium dioxide, iron oxide yellow, sodium lauryl sulfate, and FD&C Blue #2.
- *TEMODAR 20 mg:* The yellow cap contains gelatin, sodium lauryl sulfate, and iron oxide yellow.
- *TEMODAR 100 mg:* The pink cap contains gelatin, titanium dioxide, sodium lauryl sulfate, and iron oxide red.
- *TEMODAR 140 mg:* The blue cap contains gelatin, sodium lauryl sulfate, and FD&C Blue #2.

- *TEMODAR 180 mg:* The orange cap contains gelatin, iron oxide red, iron oxide yellow, titanium dioxide, and sodium lauryl sulfate.
- *TEMODAR 250 mg:* The white cap contains gelatin, titanium dioxide, and sodium lauryl sulfate.

TEMODAR for injection

TEMODAR (temozolomide) for injection is for intravenous use. Each single-dose vial contains 100 mg of sterile and pyrogen-free lyophilized powder. The inactive ingredients are: mannitol (600 mg), L-threonine (160 mg), polysorbate 80 (120 mg), sodium citrate dihydrate (235 mg), and hydrochloric acid (160 mg).

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

Temozolomide is not directly active but undergoes rapid nonenzymatic conversion at physiologic pH to the reactive compound 5-(3-methyltriazen-1-yl)-imidazole-4-carboxamide (MTIC). The cytotoxicity of MTIC is thought to be primarily due to DNA alkylation, mainly at the O^6 and N^7 positions of guanine, which causes DNA double strand breaks and results in programmed cell death.

12.2 Pharmacodynamics

Temozolomide exposure-response relationships and the time course of pharmacodynamic response are unknown.

12.3 Pharmacokinetics

Following a single oral dose of 150 mg/m^2, the mean C_{max} is 7.5 mcg/mL for temozolomide and 282 ng/mL for MTIC. The mean AUC is 23.4 mcg•hr/mL for temozolomide and 864 ng•hr/mL for MTIC.

Following a single 90-minute intravenous infusion of 150 mg/m^2, the mean C_{max} is 7.3 mcg/mL for temozolomide and 276 ng/mL for MTIC. The mean AUC is 24.6 mcg•hr/mL for temozolomide and 891 ng•hr/mL for MTIC.

Temozolomide exhibits linear kinetics over the therapeutic dosing range of 75 mg/m^2/day to 250 mg/m^2/day.

Absorption

The median T_{max} is 1 hour.

Effect of Food

The mean temozolomide C_{max} and AUC decreased by 32% and 9%, respectively, and median T_{max} increased by 2-fold (from 1 to 2.25 hours) when TEMODAR capsules were administered after a modified high-fat breakfast (587 calories comprised of 1 fried egg, 2 strips of bacon, 2 slices of toast, 2 pats of butter, and 8 oz whole milk).

Distribution

Temozolomide has a mean (CV%) apparent volume of distribution of 0.4 L/kg (13%). The mean percent bound of drug-related total radioactivity is 15%.

Elimination

Clearance of temozolomide is approximately 5.5 L/hr/m^2 and the mean elimination half-life is 1.8 hours.

Metabolism

Temozolomide is spontaneously hydrolyzed at physiologic pH to the active species, MTIC and to temozolomide acid metabolite. MTIC is further hydrolyzed to 5-amino-imidazole-4-carboxamide (AIC), which is known to be an intermediate in purine and nucleic acid biosynthesis, and to methylhydrazine, which is believed to be the active alkylating species. Cytochrome P450 enzymes play a minor role in the metabolism of temozolomide and MTIC. Relative to the AUC of temozolomide, the exposure to MTIC and AIC is 2.4% and 23%, respectively.

Excretion

Approximately 38% of the administered temozolomide total radioactive dose is recovered over 7 days: 38% in urine and 0.8% in feces. The majority of the recovered radioactivity in urine is unchanged temozolomide (6%), AIC (12%), temozolomide acid metabolite (2.3%), and unidentified polar metabolite(s) (17%).

Specific Populations

No clinically significant differences in the pharmacokinetics of temozolomide were observed based on age (range: 19 to 78 years), gender, smoking status (smoker vs. non-smoker), creatinine clearance (CLcr) of 36 to 130 mL/min/m^2, or mild to moderate hepatic impairment (Child Pugh class A and B). The pharmacokinetics of temozolomide has not been studied in patients with CLcr <36 mL/min/m^2, end-stage renal disease on dialysis, or severe hepatic impairment (Child-Pugh class C).

Drug Interaction Studies

Clinical Studies and Model-Informed Approaches

No clinically significant differences in the pharmacokinetics of temozolomide or MTIC were observed when co-administered with ranitidine.

No clinically significant differences in the clearance of temozolomide or MTIC were predicted when co-administered with the following drugs: valproic acid, dexamethasone, prochlorperazine, phenytoin, carbamazepine, ondansetron, histamine-2-receptor antagonists, or phenobarbital.

13 NONCLINICAL TOXICOLOGY

13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility

Temozolomide is carcinogenic in rats at doses less than the maximum recommended human dose. Temozolomide induced mammary carcinomas in both males and females at doses 0.13 to 0.63 times the maximum human dose (25-125 mg/m^2) when administered orally on 5 consecutive days every 28 days for 6 cycles. Temozolomide also induced fibrosarcomas of the heart, eye, seminal vesicles, salivary glands, abdominal cavity, uterus, and prostate, carcinomas of the seminal vesicles, schwannomas of the heart, optic nerve, and harderian gland, and adenomas of the skin, lung, pituitary, and thyroid at doses 0.5 times the maximum daily dose. Mammary

tumors were also induced following 3 cycles of temozolomide at the maximum recommended daily dose.

Temozolomide is a mutagen and a clastogen. In a reverse bacterial mutagenesis assay (Ames assay), temozolomide increased revertant frequency in the absence and presence of metabolic activation. Temozolomide was clastogenic in human lymphocytes in the presence and absence of metabolic activation.

Temozolomide impairs male fertility. Temozolomide caused syncytial cells/immature sperm formation at doses of 50 and 125 mg/m^2 (0.25 and 0.63 times the human dose of 200 mg/m^2) in rats and dogs, respectively, and testicular atrophy in dogs at 125 mg/m^2.

13.2 Animal Toxicology and/or Pharmacology

Toxicology studies in rats and dogs identified a low incidence of hemorrhage, degeneration, and necrosis of the retina at temozolomide doses equal to or greater than 125 mg/m^2 (0.63 times the human dose of 200 mg/m^2). These changes were most commonly seen at doses where mortality was observed.

14 CLINICAL STUDIES

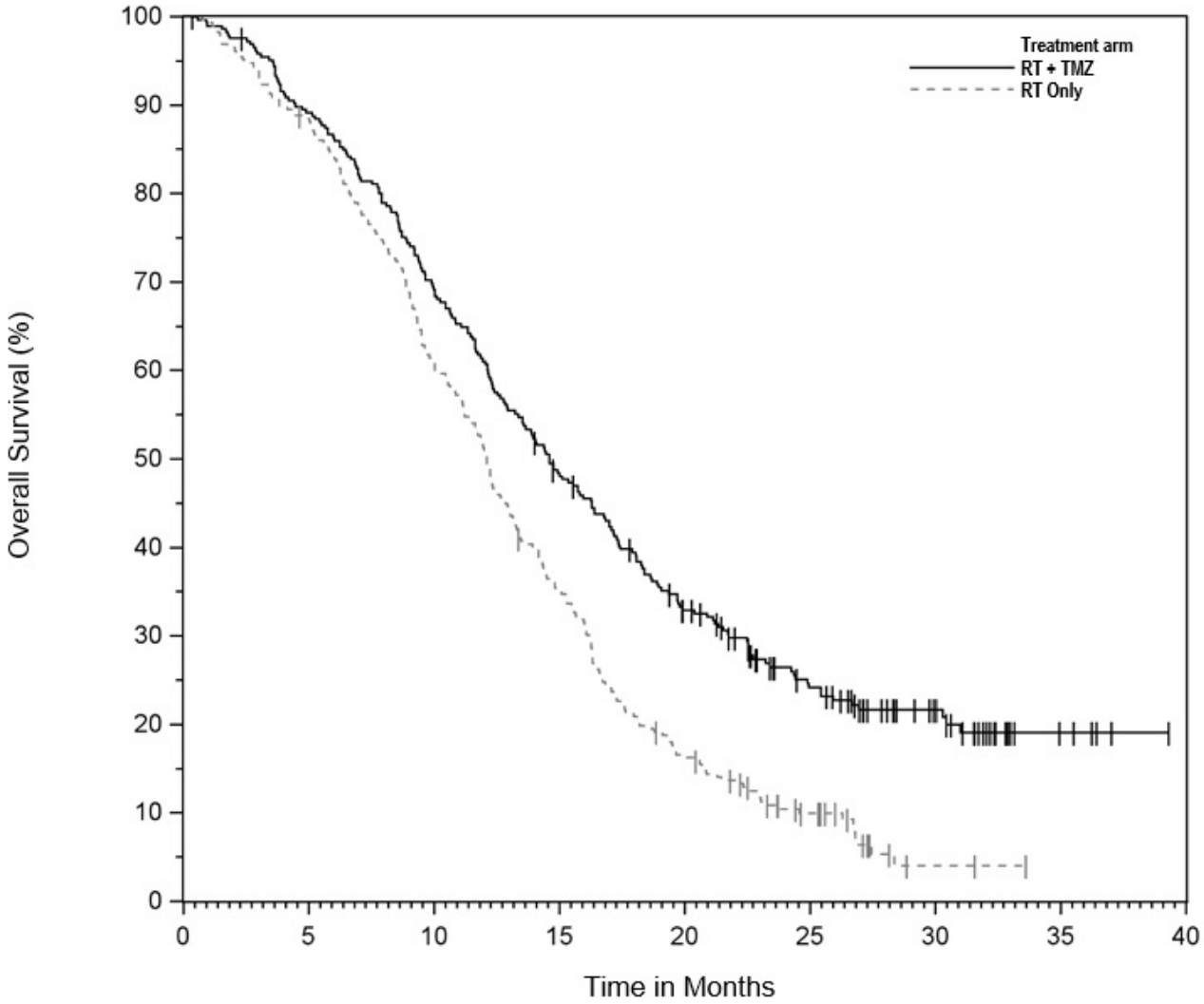
14.1 Newly Diagnosed Glioblastoma

The efficacy of TEMODAR was evaluated in MK-7365-051 (NCT00006353), a randomized (1:1), multicenter, open-label trial. Eligible patients were required to have newly diagnosed glioblastoma. Patients were randomized to receive either radiation therapy alone or concomitant TEMODAR 75 mg/m^2 once daily starting the first day of radiation therapy and continuing until the last day of radiation therapy for 42 days (with a maximum of 49 days), followed by TEMODAR 150 mg/m^2 or 200 mg/m^2 once daily on Days 1 to 5 of each 28-day cycle, starting 4 weeks after the end of radiation therapy and continuing for 6 cycles. In both arms, focal radiation therapy was delivered as 60 Gy/30 fractions and included radiation to the tumor bed or resection site with a 2- to 3-cm margin. PCP prophylaxis was required during the concomitant phase regardless of lymphocyte count and continued until recovery of lymphocyte count to Grade 1 or less. The major efficacy outcome measure was overall survival.

A total of 573 patients were randomized, 287 to TEMODAR and radiation therapy and 286 to radiation therapy alone. At the time of disease progression, TEMODAR was administered as salvage therapy in 161 patients of the 282 (57%) in the radiation therapy alone arm and 62 patients of the 277 (22%) in the TEMODAR and radiation therapy arm.

The addition of concomitant and maintenance TEMODAR to radiation therapy for the treatment of patients with newly diagnosed glioblastoma showed a statistically significant improvement in overall survival compared to radiotherapy alone (**Figure 1**). The hazard ratio (HR) for overall survival was 0.63 (95% CI: 0.52, 0.75) with a log-rank $P<0.0001$ in favor of the TEMODAR arm. The median overall survival was 14.6 months in the TEMODAR arm and 12.1 months for radiation therapy alone arm.

FIGURE 1: Kaplan-Meier Curves for Overall Survival (ITT Population) in Patients with Newly Diagnosed Glioblastoma in MK-7365-051



Number at Risk									
RT + TMZ	287	254	197	136	88	51	27	5	0
RT Only	286	252	174	99	46	19	2	0	0

14.2 Anaplastic Astrocytoma

Newly Diagnosed Anaplastic Astrocytoma

The efficacy of TEMODAR for the adjuvant treatment of newly diagnosed anaplastic astrocytoma was derived from studies of TEMODAR in the published literature. TEMODAR was evaluated in CATNON (NCT00626990), a randomized, open-label, multicenter trial, where the major efficacy outcome measure was overall survival.

Refractory Anaplastic Astrocytoma

The efficacy of TEMODAR was evaluated in Study MK-7365-006, a single-arm, multicenter trial. Eligible patients had anaplastic astrocytoma at first relapse and a baseline Karnofsky performance status (KPS) of 70 or greater. Patients had previously received radiation therapy and may also have previously received a nitrosourea with or without other chemotherapy. Fifty-four patients had disease progression on prior therapy with both a nitrosourea and procarbazine and their malignancy was considered refractory to chemotherapy (refractory anaplastic astrocytoma population). TEMODAR capsules were given on Days 1 to 5 of each 28-day cycle at a starting dose of 150

mg/m^2/day. If ANC was ≥1.5 × 10^9/L and platelet count was ≥100 × 10^9/L at the nadir and on Day 1 of the next cycle, the TEMODAR dose was increased to 200 mg/m^2/day. The major efficacy outcome measure was progression-free survival at 6 months and the additional efficacy outcome measures were overall survival and overall response rate.

In the refractory anaplastic astrocytoma population (n=54), the median age was 42 years (range: 19 to 76); 65% were male; and 72% had a KPS of >80. Sixty-three percent of patients had surgery other than a biopsy at the time of initial diagnosis. Of those patients undergoing resection, 73% underwent a subtotal resection and 27% underwent a gross total resection. Eighteen percent of patients had surgery at the time of first relapse. The median time from initial diagnosis to first relapse was 13.8 months (range: 4.2 months to 6.3 years).

In the refractory anaplastic astrocytoma population, the overall response rate (CR+PR) was 22% (12 of 54 patients) and the complete response rate was 9% (5 of 54 patients). The median duration of all responses was 50 weeks (range: 16 to 114 weeks) and the median duration of complete responses was 64 weeks (range: 52 to 114 weeks). In this population, progression-free survival at 6 months was 45% (95% CI: 31%, 58%) and progression-free survival at 12 months was 29% (95% CI: 16%, 42%). Median progression-free survival was 4.4 months. Overall survival at 6 months was 74% (95% CI: 62%, 86%) and 12-month overall survival was 65% (95% CI: 52%, 78%). Median overall survival was 15.9 months.

15 REFERENCES

1. “OSHA Hazardous Drugs.” OSHA. http://www.osha.gov/hazardous-drugs

16 HOW SUPPLIED/STORAGE AND HANDLING

TEMODAR is a hazardous drug. Follow applicable special handling and disposal procedures.[1]

TEMODAR capsules

TEMODAR capsules are supplied in child-resistant sachets containing the following capsule strengths:

5 mg: opaque white bodies with green caps. The capsule body is imprinted with two stripes, the dosage strength, and the Schering-Plough logo. The cap is imprinted with “TEMODAR”. They are supplied as follows:

5-count – NDC 0085-3004-03
14-count – NDC 0085-3004-04

20 mg: opaque white bodies with yellow caps. The capsule body is imprinted with two stripes, the dosage strength, and the Schering-Plough logo. The cap is imprinted with “TEMODAR”. They are supplied as follows:

5-count – NDC 0085-1519-03
14-count – NDC 0085-1519-04

100 mg: opaque white bodies with pink caps. The capsule body is imprinted with two stripes, the dosage strength, and the Schering-Plough logo. The cap is imprinted with

“TEMODAR”. They are supplied as follows:

5-count – NDC 0085-1366-03
14-count – NDC 0085-1366-04

140 mg: opaque white bodies with blue caps. The capsule body is imprinted with two stripes, the dosage strength, and the Schering-Plough logo. The cap is imprinted with “TEMODAR”. They are supplied as follows:

5-count – NDC 0085-1425-03
14-count – NDC 0085-1425-04

180 mg: opaque white bodies with orange caps. The capsule body is imprinted with two stripes, the dosage strength, and the Schering-Plough logo. The cap is imprinted with “TEMODAR”. They are supplied as follows:

5-count – NDC 0085-1430-03
14-count – NDC 0085-1430-04

250 mg: opaque white bodies with white caps. The capsule body is imprinted with two stripes, the dosage strength, and the Schering-Plough logo. The cap is imprinted with “TEMODAR”. They are supplied as follows:

5-count – NDC 0085-1417-02

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

TEMODAR for injection

TEMODAR for injection is supplied in single-dose glass vials containing 100 mg temozolomide. The lyophilized powder is white to light tan or light pink.

NDC 0085-1381-01

Store TEMODAR for injection refrigerated at 2°C to 8°C (36°F to 46°F).

17 PATIENT COUNSELING INFORMATION

Advise the patient to read the FDA-approved patient labeling (Patient Information).

Myelosuppression

Inform patients that TEMODAR can cause low blood cell counts and the need for frequent monitoring of blood cell counts. Advise patients to contact their healthcare provider immediately for bleeding, fever, or other signs of infection *[see Warnings and Precautions (5.1)].*

Hepatotoxicity

Advise patients of the increased risk of hepatotoxicity and to contact their healthcare provider immediately for signs or symptoms of hepatotoxicity. Inform patients that they will have periodic liver enzyme tests during treatment and following the last dose of TEMODAR *[see Warnings and Precautions (5.2)]*.

Pneumocystis Pneumonia

Advise patients of the increased risk of *Pneumocystis* pneumonia and to contact their healthcare provider immediately for new or worsening pulmonary symptoms. Inform patients that prophylaxis for *Pneumocystis* pneumonia may be needed *[see Dosage and Administration (2.1), Warnings and Precautions (5.3)]*.

Secondary Malignancies

Advise patients of the increased risk of myelodysplastic syndrome and secondary malignancies *[see Warnings and Precautions (5.4)].*

Exposure to Opened Capsules

Advise patient to not open, chew, or dissolve the capsules. If capsules are accidentally opened or damaged, advise patients to take rigorous precautions with capsule contents to avoid inhalation or contact with the skin or mucous membranes *[see Warnings and Precautions (5.6)]*. In case of powder contact, wash the affected area with water immediately *[see Dosage and Administration (2.4)]*.

Embryo-Fetal Toxicity

Advise pregnant women and females of reproductive potential of the potential risk to a fetus. Advise females to inform their healthcare provider of a known or suspected pregnancy *[see Warnings and Precautions (5.5), Use in Specific Populations (8.1)]*.

Advise females of reproductive potential to use effective contraception during treatment with TEMODAR and for 6 months after the last dose *[see Use in Specific Populations (8.3)]*.

Advise male patients with pregnant partners or female partners of reproductive potential to use condoms during treatment with TEMODAR and for 3 months after the last dose *[see Use in Specific Populations (8.3), Nonclinical Toxicology (13.1)]*.

Advise male patients not to donate semen during treatment with TEMODAR and for 3 months after the last dose *[see Use in Specific Populations (8.3), Nonclinical Toxicology (13.1)]*.

Lactation

Advise women not to breastfeed during treatment with TEMODAR and for 1 week after the last dose *[see Use in Specific Populations (8.2)]*.

Infertility

Advise males of reproductive potential that TEMODAR may impair fertility *[see Use in Specific Populations (8.3), Nonclinical Toxicology (13.1)]*.

Distributed by: Merck Sharp & Dohme LLC
Rahway, NJ 07065, USA

For patent information: www.msd.com/research/patent

uspi-mk7365-mtl-2309r024

Patient Information

TEMODAR® (tem-o-dar) (temozolomide) capsules	**TEMODAR® (tem-o-dar) (temozolomide) for injection**

What is TEMODAR?

TEMODAR is a prescription medicine used to treat adults with certain brain cancer tumors.

It is not known if TEMODAR is safe and effective in children.

Do not take TEMODAR if you:

- have had an allergic reaction to temozolomide or any of the other ingredients in TEMODAR. See the end of this leaflet for a list of ingredients in TEMODAR. Symptoms of an allergic reaction with TEMODAR may include: a red itchy rash, or a severe allergic reaction, such as trouble breathing, swelling of the face, throat, or tongue, or severe skin reaction. If you are not sure, ask your healthcare provider.
- have had an allergic reaction to dacarbazine (DTIC), another cancer medicine.

Before taking or receiving TEMODAR, tell your healthcare provider about all of your medical conditions, including if you:

- have kidney problems
- have liver problems
- are pregnant or plan to become pregnant. **TEMODAR can harm your unborn baby and cause birth defects.**
  Females who can become pregnant:
  - You should not become pregnant during treatment with TEMODAR.
  - You should use an effective form of birth control (contraception) during treatment and for 6 months after your last dose of TEMODAR.
  - Your healthcare provider should do a pregnancy test to make sure that you are not pregnant before you start taking TEMODAR.
  - Tell your healthcare provider right away if you become pregnant or think you may be pregnant during treatment with TEMODAR.

  Males with a female partner who is pregnant or who can become pregnant:
  - Use a condom for birth control (contraception) during treatment and for 3 months after taking your last dose of TEMODAR.
  - **Do not** donate semen during treatment and for 3 months after your last dose of TEMODAR.
- are breastfeeding or plan to breastfeed. It is not known if TEMODAR passes into your breast milk. Do not breastfeed during treatment and for 1 week after your last dose of TEMODAR.

Tell your doctor about all the medicines you take, including prescription and non-prescription medicines, vitamins, and herbal supplements.

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

How should I take TEMODAR?

TEMODAR may be taken 2 different ways:

- you may take TEMODAR by mouth as a capsule, or
- you may receive TEMODAR as an intravenous (IV) injection into your vein. Your healthcare provider will decide the best way for you to take TEMODAR.
- If your healthcare provider prescribes TEMODAR capsules for you, take the capsules exactly as prescribed.

There are 2 common dosing schedules for taking or receiving TEMODAR depending on the type of brain cancer tumor that you have.

- People with certain brain cancer tumors take or receive TEMODAR:
  - 1 time each day for 42 to 49 days in a row, along with receiving radiation treatment. This is 1 cycle of treatment.
    After this, your healthcare provider may prescribe 6 more cycles of TEMODAR as "maintenance" treatment. For each of these cycles, you take or receive TEMODAR 1 time each day for 5 days in a row and then you stop taking it for the next 23 days. **This is a 28-day maintenance treatment cycle.**

- People with certain other brain cancer tumors take or receive TEMODAR:
  - 1 time each day for 5 days in a row only, and then stop taking it for the next 23 days. This is 1 cycle of treatment (28 days).
  - Your healthcare provider will watch your progress on TEMODAR and decide how long you should take it.
- If your healthcare provider prescribes a treatment regimen that is different from the information in this leaflet, make sure you follow the instructions given to you by your healthcare provider.
- Your healthcare provider may change your dose of TEMODAR, or tell you to stop TEMODAR for a short period of time or permanently if you have certain side effects.
- Your healthcare provider will decide how many treatment cycles of TEMODAR that you will receive, depending on how you respond to and tolerate treatment.

TEMODAR capsules:

- Take TEMODAR capsules exactly as your healthcare provider tells you to.
- TEMODAR capsules contain a white capsule body with a color cap and the colors vary based on the dosage strength. Your healthcare provider may prescribe more than 1 strength of TEMODAR capsules for you, so it is important that you understand how to take your medicine the right way. Be sure that you understand exactly how many capsules you need to take on each day of your treatment, and what strengths to take. **This may be different whenever you start a new cycle.**
- **Do not take more TEMODAR than prescribed**.
- Talk to your healthcare provider or pharmacist before taking your dose if you are not sure how much TEMODAR to take. This will help to prevent taking too much TEMODAR and decrease your chances of getting serious side effects.
- Take each day's dose of TEMODAR capsules at one time, with a full glass of water.
- Take TEMODAR capsules at the same time each day.
- Take TEMODAR the same way each time, either with food or without food.
- **Swallow TEMODAR capsules whole with water. Do not** open, chew, or dissolve the contents of the capsules.
- If TEMODAR capsules are accidentally opened or damaged, be careful not to breathe in (inhale) the powder from the capsules or get the powder on your skin or mucous

membranes (for example, in your nose or mouth). If contact with any of these areas happens, wash the area with water right away.
- To help reduce nausea and vomiting, try to take TEMODAR on an empty stomach or at bedtime. Your healthcare provider may prescribe medicine to help prevent or treat nausea, or other medicines to reduce side effects with TEMODAR.
- See your healthcare provider regularly to check your progress. Your healthcare provider will check you for side effects.
- If you take more TEMODAR than prescribed, call your healthcare provider or get emergency medical help right away.

TEMODAR for injection:
- You will receive TEMODAR as an infusion directly into your vein over about 90 minutes.
- Your healthcare provider may prescribe medicine to prevent or treat nausea, or other medicines to help relieve side effects with TEMODAR.
- For certain people taking or receiving TEMODAR, your healthcare provider may prescribe an antibiotic to prevent certain infections if you have certain white blood cell counts that are too low.

What are the possible side effects of TEMODAR?
TEMODAR can cause serious side effects, including:
- **Decreased blood cell counts**. TEMODAR can affect your bone marrow and cause you to have decreased blood cell counts. Decreased white blood cell count, red blood cell count and platelet count are common with TEMODAR but it can also be severe and lead to death. Some people need to be hospitalized or need to receive transfusions to treat their decreased blood cell counts.
  - Your healthcare provider will do blood tests regularly to check your blood cell counts before you start and during treatment with TEMODAR.
  - Your healthcare provider may need to change the dose of TEMODAR or when you get it depending on your blood cell counts.
  - People who are age 70 or older and women have a higher risk for developing decreased blood cell counts during treatment with TEMODAR.
- **Liver problems. Liver problems can happen with TEMODAR and can sometimes be severe and lead to death**. Your healthcare provider will do blood tests to check your liver function before you start taking TEMODAR, during treatment, and about 2 to 4 weeks after your last dose of TEMODAR.
- ***Pneumocystis* pneumonia (PCP).** PCP is an infection that people can get when their immune system is weak. TEMODAR decreases white blood cells, which makes your immune system weaker and can increase your risk of getting PCP.
  - People who are taking steroid medicines or who stay on TEMODAR for a longer period of time may have an increased risk of getting PCP infection.
  - Anyone who takes TEMODAR will be watched carefully by their healthcare provider for low blood cell counts and this infection.
  - Tell your healthcare provider if you have any of the following signs and symptoms of PCP infection: shortness of breath, or fever, chills, dry cough.
- **Secondary Cancers**. Blood problems such as myelodysplastic syndrome (MDS) and new cancers (secondary cancers), including a certain kind of leukemia, can happen in people who take TEMODAR. Your healthcare provider will monitor you for this.

Common side effects of TEMODAR include:

- hair loss
- feeling tired
- nausea and vomiting
- headache
- constipation
- loss of appetite
- convulsions

Additional side effects seen with TEMODAR for injection include:

- pain, irritation, itching, warmth, swelling, or redness at the site of infusion
- bruising or small red or purple spots under the skin

TEMODAR can affect fertility in males and may affect your ability to father a child. Talk with your healthcare provider if fertility is a concern for you.

Tell your healthcare provider about any side effect that bothers you or that does not go away.

These are not all the possible side effects of TEMODAR. For more information, ask your healthcare provider 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 TEMODAR capsules?

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

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

General information about the safe and effective use of TEMODAR.

Medicines are sometimes prescribed for purposes other than those listed in a Patient Information leaflet. Do not use TEMODAR for a condition for which it was not prescribed. Do not give TEMODAR to other people, even if they have the same symptoms that you have. It may harm them. You can ask your pharmacist or healthcare provider for information about TEMODAR that is written for health professionals.

What are the ingredients in TEMODAR?

TEMODAR capsules:

Active ingredient: temozolomide

Inactive ingredients: lactose anhydrous, colloidal silicon dioxide, sodium starch glycolate, tartaric acid, stearic acid.

The body of the capsules is made of gelatin and is opaque white. The cap is also made of gelatin, and the colors vary based on the dosage strength. The capsule body and cap are imprinted with pharmaceutical branding ink, which contains shellac, dehydrated alcohol, isopropyl alcohol, butyl alcohol, propylene glycol, purified water, strong ammonia, potassium hydroxide, and ferric oxide.

TEMODAR 5 mg: The green cap contains gelatin, titanium dioxide, iron oxide yellow, sodium lauryl sulfate, and FD&C Blue #2.

TEMODAR 20 mg: The yellow cap contains gelatin, sodium lauryl sulfate, and iron oxide yellow.

TEMODAR 100 mg: The pink cap contains gelatin, titanium dioxide, sodium lauryl sulfate, and iron oxide red.

TEMODAR 140 mg: The blue cap contains gelatin, sodium lauryl sulfate, and FD&C Blue

#2.
TEMODAR 180 mg: The orange cap contains gelatin, iron oxide red, iron oxide yellow, titanium dioxide, and sodium lauryl sulfate.
TEMODAR 250 mg: The white cap contains gelatin, titanium dioxide, and sodium lauryl sulfate.

TEMODAR for injection:

Active ingredient: temozolomide.
Inactive ingredients: mannitol, L-threonine, polysorbate 80, sodium citrate dihydrate, and hydrochloric acid.

Distributed by: Merck Sharp & Dohme LLC, Rahway, NJ 07065, USA

For patent information: www.msd.com/research/patent

usppi-mk7365-mtl-2309r013

For more information, go to www.TEMODAR.com or call 1-877-888-4231.

This Patient Information has been approved by the U.S. Food and Drug Administration.

Revised: 9/2023

PRINCIPAL DISPLAY PANEL - 5 mg Capsule Sachet Carton

NDC 0085-3004-03

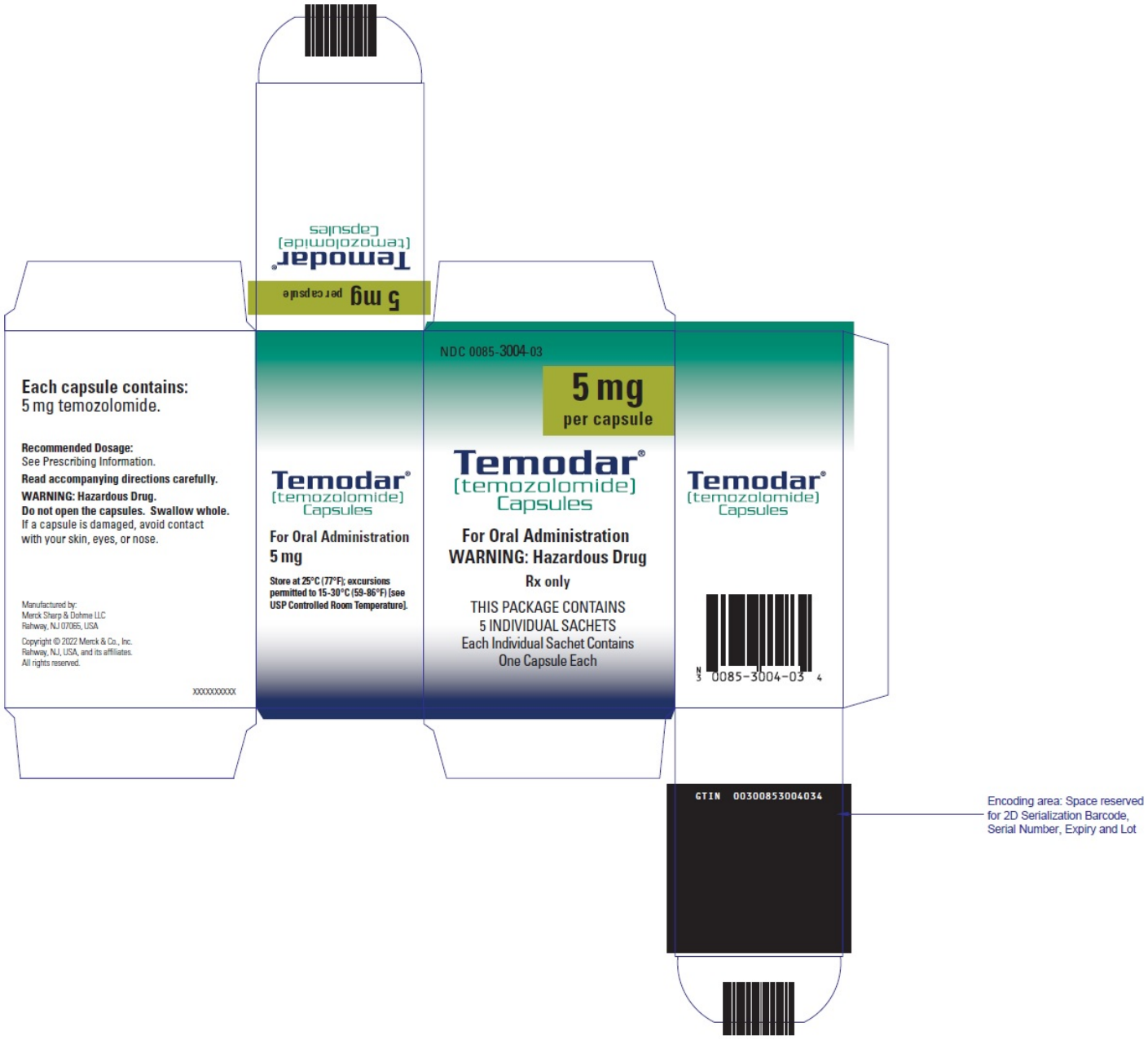
5 mg
per capsule

Temodar®
[temozolomide]
Capsules

For Oral Administration
WARNING: Hazardous Drug
Rx only

THIS PACKAGE CONTAINS
5 INDIVIDUAL SACHETS

Each Individual Sachet Contains
One Capsule Each



PRINCIPAL DISPLAY PANEL - 20 mg Capsule Sachet Carton

NDC 0085-1519-03

20 mg
per capsule

Temodar®
[temozolomide]
Capsules

For Oral Administration
WARNING: Hazardous Drug
Rx only

THIS PACKAGE CONTAINS
5 INDIVIDUAL SACHETS

Each Individual Sachet Contains
One Capsule Each

PRINCIPAL DISPLAY PANEL - 100 mg Capsule Sachet Carton

NDC 0085-1366-03

100 mg
per capsule

Temodar®
[temozolomide]
Capsules

For Oral Administration
WARNING: Hazardous Drug

Rx only

THIS PACKAGE CONTAINS
5 INDIVIDUAL SACHETS

Each Individual Sachet Contains
One Capsule Each

PRINCIPAL DISPLAY PANEL - 140 mg Capsule Sachet Carton

NDC 0085-1425-03

140 mg
per capsule

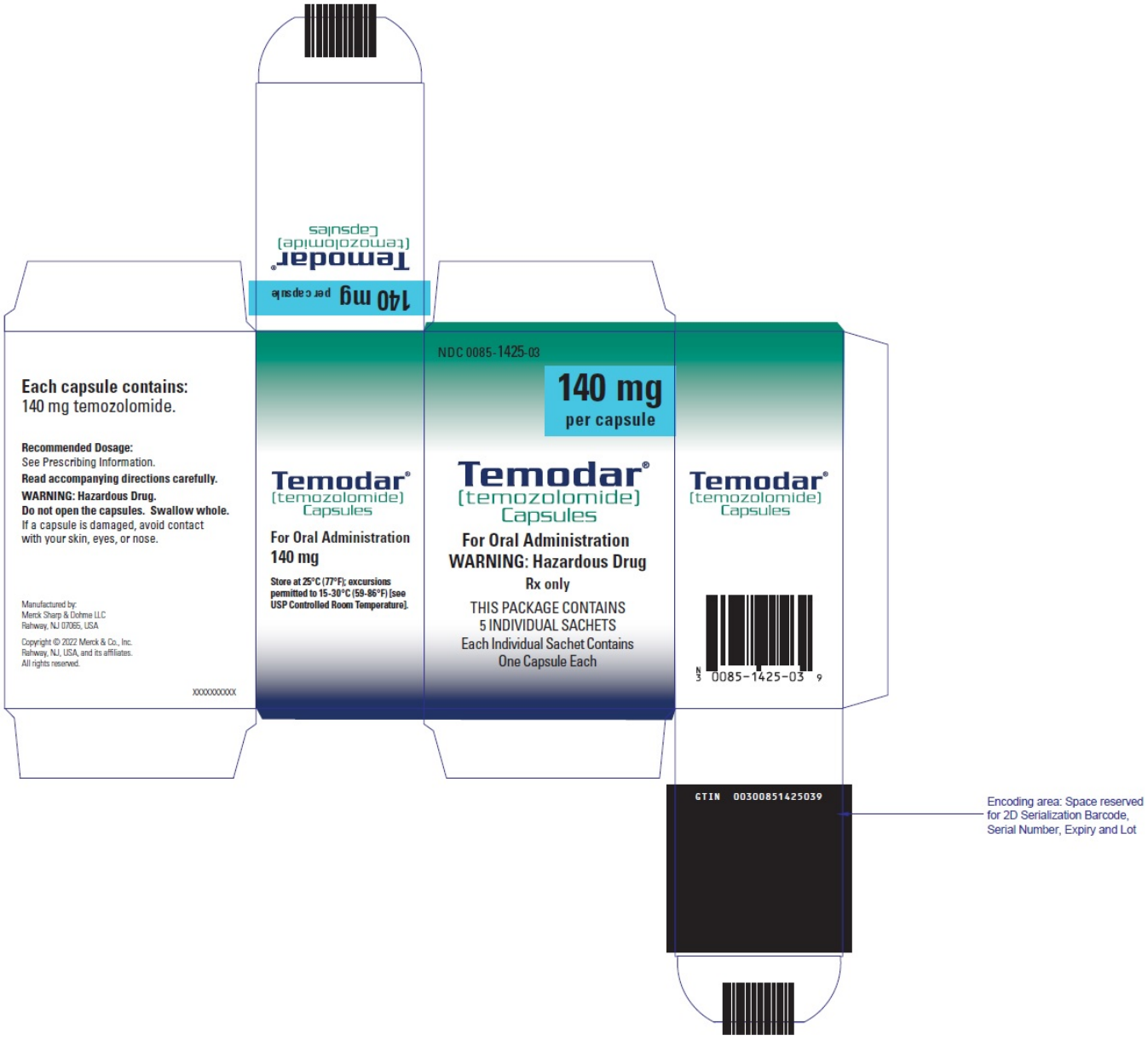
Temodar®
[temozolomide]

Capsules

For Oral Administration
WARNING: Hazardous Drug
Rx only

THIS PACKAGE CONTAINS
5 INDIVIDUAL SACHETS

Each Individual Sachet Contains
One Capsule Each



PRINCIPAL DISPLAY PANEL - 180 mg Capsule Sachet Carton

NDC 0085-1430-03

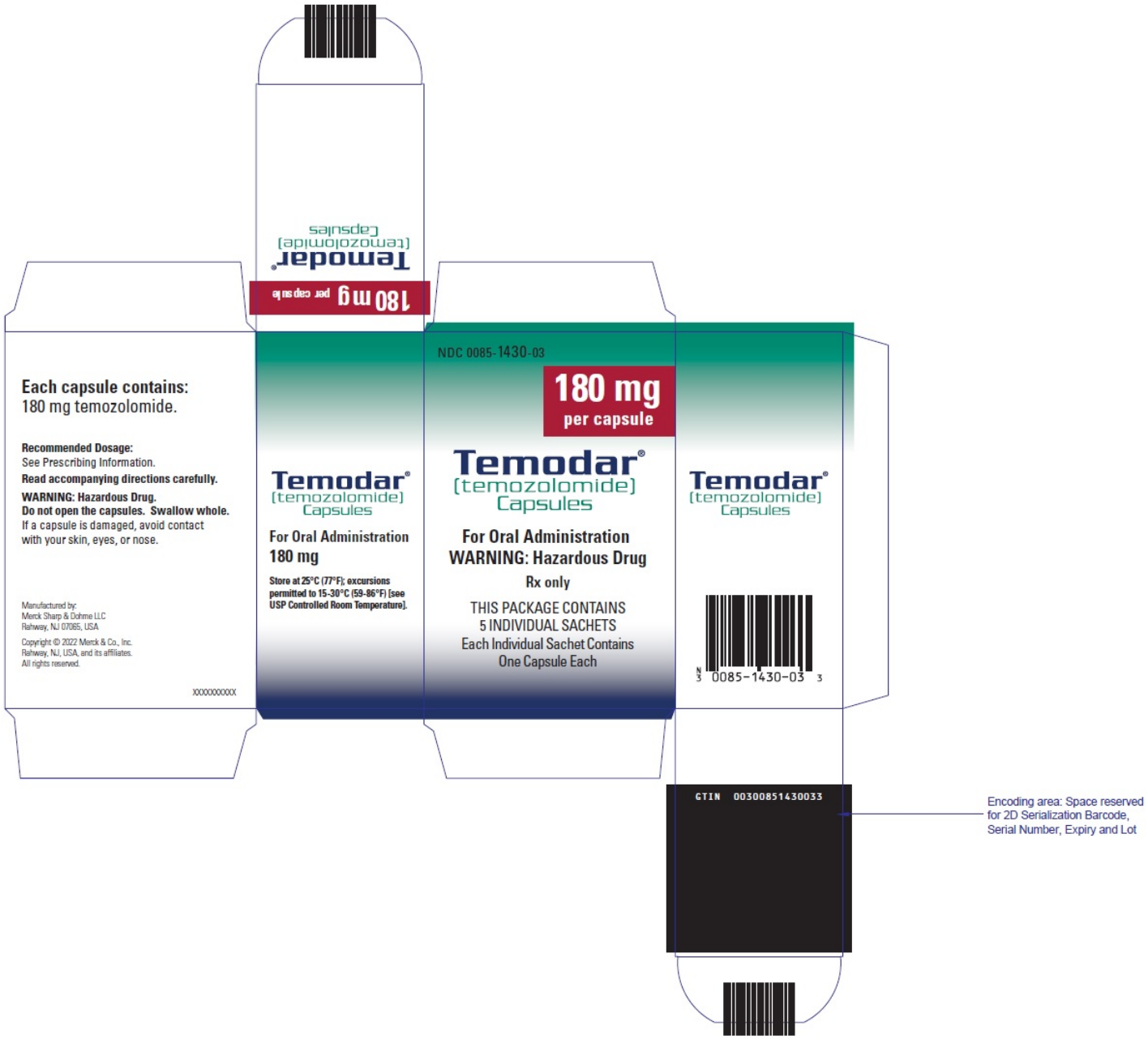
180 mg
per capsule

Temodar®
[temozolomide]
Capsules

For Oral Administration
WARNING: Hazardous Drug
Rx only

THIS PACKAGE CONTAINS
5 INDIVIDUAL SACHETS

Each Individual Sachet Contains
One Capsule Each



PRINCIPAL DISPLAY PANEL - 250 mg Capsule Sachet Carton

NDC 0085-1417-02

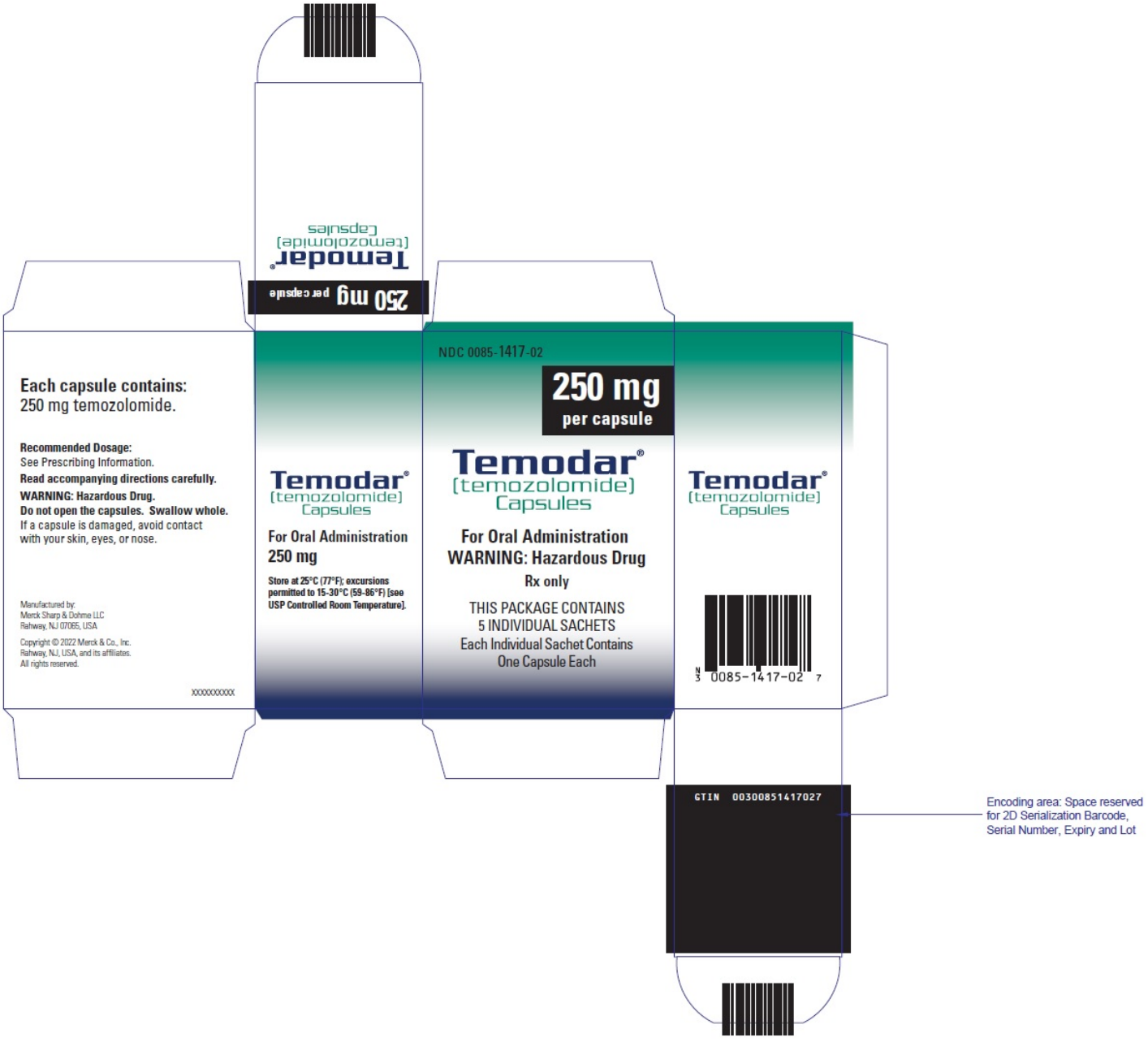
250 mg
per capsule

Temodar®
[temozolomide]
Capsules

For Oral Administration
WARNING: Hazardous Drug
Rx only

THIS PACKAGE CONTAINS
5 INDIVIDUAL SACHETS

Each Individual Sachet Contains
One Capsule Each



PRINCIPAL DISPLAY PANEL - 100 mg Vial Carton

NDC 0085-1381-01

Temodar®
[temozolomide]
for Injection

100 mg / VIAL

For Intravenous Infusion
after Reconstitution
WARNING: Hazardous Drug

Single-Dose Vial.
Discard unused portion.

Rx only

TEMODAR

temozolomide capsule

Product Information			
Product Type	HUMAN PRESCRIPTION DRUG	**Item Code (Source)**	NDC:0085-3004
Route of Administration	ORAL		

Active Ingredient/Active Moiety		
Ingredient Name	**Basis of Strength**	**Strength**
Temozolomide (UNII: YF1K15M17Y) (Temozolomide - UNII:YF1K15M17Y)	Temozolomide	5 mg

Inactive Ingredients

Ingredient Name	Strength
anhydrous lactose (UNII: 3SY5LH9PMK)	132.8 mg
silicon dioxide (UNII: ETJ7Z6XBU4)	0.2 mg
sodium starch glycolate type A potato (UNII: 5856J3G2A2)	7.5 mg
tartaric acid (UNII: W4888I119H)	1.5 mg
stearic acid (UNII: 4ELV7Z65AP)	3 mg
shellac (UNII: 46N107B71O)	
alcohol (UNII: 3K9958V90M)	
isopropyl alcohol (UNII: ND2M416302)	
butyl alcohol (UNII: 8PJ61P6TS3)	
propylene glycol (UNII: 6DC9Q167V3)	
water (UNII: 059QF0KO0R)	
ammonia (UNII: 5138Q19F1X)	
potassium hydroxide (UNII: WZH3C48M4T)	
ferric oxide red (UNII: 1K09F3G675)	
GELATIN, UNSPECIFIED (UNII: 2G86QN327L)	
titanium dioxide (UNII: 15FIX9V2JP)	
ferric oxide yellow (UNII: EX438O2MRT)	
sodium lauryl sulfate (UNII: 368GB5141J)	
FD&C Blue No. 2 (UNII: L06K8R7DQK)	

Product Characteristics

Color	GREEN, WHITE	**Score**	no score
Shape	CAPSULE	**Size**	16mm
Flavor		**Imprint Code**	TEMODAR;5;mg
Contains			

Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:0085-3004-03	5 in 1 CARTON	08/11/1999	
1	NDC:0085-3004-05	1 in 1 PACKET; Type 0: Not a Combination Product		
2	NDC:0085-3004-04	14 in 1 CARTON	08/11/1999	
2	NDC:0085-3004-05	1 in 1 PACKET; Type 0: Not a Combination Product		

Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
NDA	NDA021029	08/11/1999	

TEMODAR

temozolomide capsule

Product Information			
Product Type	HUMAN PRESCRIPTION DRUG	**Item Code (Source)**	NDC:0085-1519
Route of Administration	ORAL		

Active Ingredient/Active Moiety		
Ingredient Name	**Basis of Strength**	**Strength**
Temozolomide (UNII: YF1K15M17Y) (Temozolomide - UNII:YF1K15M17Y)	Temozolomide	20 mg

Inactive Ingredients	
Ingredient Name	**Strength**
anhydrous lactose (UNII: 3SY5LH9PMK)	182.2 mg
silicon dioxide (UNII: ETJ7Z6XBU4)	0.2 mg
sodium starch glycolate type A potato (UNII: 5856J3G2A2)	11 mg
tartaric acid (UNII: W4888I119H)	2.2 mg
stearic acid (UNII: 4ELV7Z65AP)	4.4 mg
shellac (UNII: 46N107B71O)	
alcohol (UNII: 3K9958V90M)	
isopropyl alcohol (UNII: ND2M416302)	
butyl alcohol (UNII: 8PJ61P6TS3)	
propylene glycol (UNII: 6DC9Q167V3)	
water (UNII: 059QF0KO0R)	
ammonia (UNII: 5138Q19F1X)	
potassium hydroxide (UNII: WZH3C48M4T)	
ferric oxide red (UNII: 1K09F3G675)	
GELATIN, UNSPECIFIED (UNII: 2G86QN327L)	
sodium lauryl sulfate (UNII: 368GB5141J)	
ferric oxide yellow (UNII: EX438O2MRT)	

Product Characteristics			
Color	YELLOW, WHITE	**Score**	no score
Shape	CAPSULE	**Size**	17mm
Flavor		**Imprint Code**	TEMODAR;20;mg
Contains			

Packaging				
#	**Item Code**	**Package Description**	**Marketing Start Date**	**Marketing End Date**
1	NDC:0085-1519-03	5 in 1 CARTON	08/11/1999	
1	NDC:0085-1519-05	1 in 1 PACKET; Type 0: Not a Combination Product		

2	NDC:0085-1519-04	14 in 1 CARTON	08/11/1999	
2	NDC:0085-1519-05	1 in 1 PACKET; Type 0: Not a Combination Product		

Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
NDA	NDA021029	08/11/1999	

TEMODAR

temozolomide capsule

Product Information

Product Type	HUMAN PRESCRIPTION DRUG	**Item Code (Source)**	NDC:0085-1366
Route of Administration	ORAL		

Active Ingredient/Active Moiety

Ingredient Name	Basis of Strength	Strength
Temozolomide (UNII: YF1K15M17Y) (Temozolomide - UNII:YF1K15M17Y)	Temozolomide	100 mg

Inactive Ingredients

Ingredient Name	Strength
anhydrous lactose (UNII: 3SY5LH9PMK)	175.7 mg
silicon dioxide (UNII: ETJ7Z6XBU4)	0.3 mg
sodium starch glycolate type A potato (UNII: 5856J3G2A2)	15 mg
tartaric acid (UNII: W4888I119H)	3 mg
stearic acid (UNII: 4ELV7Z65AP)	6 mg
shellac (UNII: 46N107B71O)	
alcohol (UNII: 3K9958V90M)	
isopropyl alcohol (UNII: ND2M416302)	
butyl alcohol (UNII: 8PJ61P6TS3)	
propylene glycol (UNII: 6DC9Q167V3)	
water (UNII: 059QF0KO0R)	
ammonia (UNII: 5138Q19F1X)	
potassium hydroxide (UNII: WZH3C48M4T)	
ferric oxide red (UNII: 1K09F3G675)	
GELATIN, UNSPECIFIED (UNII: 2G86QN327L)	
titanium dioxide (UNII: 15FIX9V2JP)	
sodium lauryl sulfate (UNII: 368GB5141J)	

Product Characteristics

Color	PINK, WHITE	**Score**	no score

Shape	CAPSULE	**Size**	19mm
Flavor		**Imprint Code**	TEMODAR;100;mg
Contains			

Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:0085-1366-03	5 in 1 CARTON	08/11/1999	
1	NDC:0085-1366-05	1 in 1 PACKET; Type 0: Not a Combination Product		
2	NDC:0085-1366-04	14 in 1 CARTON	08/11/1999	
2	NDC:0085-1366-05	1 in 1 PACKET; Type 0: Not a Combination Product		

Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
NDA	NDA021029	08/11/1999	

TEMODAR

temozolomide capsule

Product Information

Product Type	HUMAN PRESCRIPTION DRUG	**Item Code (Source)**	NDC:0085-1425
Route of Administration	ORAL		

Active Ingredient/Active Moiety

Ingredient Name	Basis of Strength	Strength
Temozolomide (UNII: YF1K15M17Y) (Temozolomide - UNII:YF1K15M17Y)	Temozolomide	140 mg

Inactive Ingredients

Ingredient Name	Strength
anhydrous lactose (UNII: 3SY5LH9PMK)	246 mg
silicon dioxide (UNII: ETJ7Z6XBU4)	0.4 mg
sodium starch glycolate type A potato (UNII: 5856J3G2A2)	21 mg
tartaric acid (UNII: W4888I119H)	4.2 mg
stearic acid (UNII: 4ELV7Z65AP)	8.4 mg
shellac (UNII: 46N107B71O)	
alcohol (UNII: 3K9958V90M)	
isopropyl alcohol (UNII: ND2M416302)	
butyl alcohol (UNII: 8PJ61P6TS3)	

propylene glycol (UNII: 6DC9Q167V3)	
water (UNII: 059QF0KO0R)	
ammonia (UNII: 5138Q19F1X)	
potassium hydroxide (UNII: WZH3C48M4T)	
ferric oxide red (UNII: 1K09F3G675)	
GELATIN, UNSPECIFIED (UNII: 2G86QN327L)	
sodium lauryl sulfate (UNII: 368GB5141J)	
FD&C Blue No. 2 (UNII: L06K8R7DQK)	

Product Characteristics

Color	BLUE, WHITE	**Score**	no score
Shape	CAPSULE	**Size**	20mm
Flavor		**Imprint Code**	TEMODAR;140;mg
Contains			

Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:0085-1425-03	5 in 1 CARTON	08/11/1999	
1	NDC:0085-1425-05	1 in 1 PACKET; Type 0: Not a Combination Product		
2	NDC:0085-1425-04	14 in 1 CARTON	08/11/1999	
2	NDC:0085-1425-05	1 in 1 PACKET; Type 0: Not a Combination Product		

Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
NDA	NDA021029	08/11/1999	

TEMODAR

temozolomide capsule

Product Information

Product Type	HUMAN PRESCRIPTION DRUG	**Item Code (Source)**	NDC:0085-1430
Route of Administration	ORAL		

Active Ingredient/Active Moiety

Ingredient Name	Basis of Strength	Strength
Temozolomide (UNII: YF1K15M17Y) (Temozolomide - UNII:YF1K15M17Y)	Temozolomide	180 mg

Inactive Ingredients

Ingredient Name	Strength
anhydrous lactose (UNII: 3SY5LH9PMK)	316.3 mg
silicon dioxide (UNII: ETJ7Z6XBU4)	0.5 mg
sodium starch glycolate type A potato (UNII: 5856J3G2A2)	27 mg
tartaric acid (UNII: W4888I119H)	5.4 mg
stearic acid (UNII: 4ELV7Z65AP)	10.8 mg
shellac (UNII: 46N107B71O)	
alcohol (UNII: 3K9958V90M)	
isopropyl alcohol (UNII: ND2M416302)	
butyl alcohol (UNII: 8PJ61P6TS3)	
propylene glycol (UNII: 6DC9Q167V3)	
water (UNII: 059QF0KO0R)	
ammonia (UNII: 5138Q19F1X)	
potassium hydroxide (UNII: WZH3C48M4T)	
ferric oxide red (UNII: 1K09F3G675)	
GELATIN, UNSPECIFIED (UNII: 2G86QN327L)	
ferric oxide yellow (UNII: EX438O2MRT)	
titanium dioxide (UNII: 15FIX9V2JP)	
sodium lauryl sulfate (UNII: 368GB5141J)	

Product Characteristics

Color	ORANGE, WHITE	**Score**	no score
Shape	CAPSULE	**Size**	20mm
Flavor		**Imprint Code**	TEMODAR;180;mg
Contains			

Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:0085-1430-03	5 in 1 CARTON	08/11/1999	
1	NDC:0085-1430-05	1 in 1 PACKET; Type 0: Not a Combination Product		
2	NDC:0085-1430-04	14 in 1 CARTON	08/11/1999	
2	NDC:0085-1430-05	1 in 1 PACKET; Type 0: Not a Combination Product		

Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
NDA	NDA021029	08/11/1999	

TEMODAR

temozolomide capsule

Product Information

Product Type	HUMAN PRESCRIPTION DRUG	**Item Code (Source)**	NDC:0085-1417
Route of Administration	ORAL		

Active Ingredient/Active Moiety

Ingredient Name	Basis of Strength	Strength
Temozolomide (UNII: YF1K15M17Y) (Temozolomide - UNII:YF1K15M17Y)	Temozolomide	250 mg

Inactive Ingredients

Ingredient Name	Strength
anhydrous lactose (UNII: 3SY5LH9PMK)	154.3 mg
silicon dioxide (UNII: ETJ7Z6XBU4)	0.7 mg
sodium starch glycolate type A potato (UNII: 5856J3G2A2)	22.5 mg
tartaric acid (UNII: W4888I119H)	9 mg
stearic acid (UNII: 4ELV7Z65AP)	13.5 mg
shellac (UNII: 46N107B71O)	
alcohol (UNII: 3K9958V90M)	
isopropyl alcohol (UNII: ND2M416302)	
butyl alcohol (UNII: 8PJ61P6TS3)	
propylene glycol (UNII: 6DC9Q167V3)	
water (UNII: 059QF0KO0R)	
ammonia (UNII: 5138Q19F1X)	
potassium hydroxide (UNII: WZH3C48M4T)	
ferric oxide red (UNII: 1K09F3G675)	
GELATIN, UNSPECIFIED (UNII: 2G86QN327L)	
titanium dioxide (UNII: 15FIX9V2JP)	
sodium lauryl sulfate (UNII: 368GB5141J)	

Product Characteristics

Color	WHITE	**Score**	no score
Shape	CAPSULE	**Size**	21mm
Flavor		**Imprint Code**	TEMODAR;250;mg
Contains			

Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:0085-1417-02	5 in 1 CARTON	08/11/1999	
1	NDC:0085-1417-03	1 in 1 PACKET; Type 0: Not a Combination Product		

Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
NDA	NDA021029	08/11/1999	

TEMODAR

temozolomide injection, powder, lyophilized, for solution

Product Information

Product Type	HUMAN PRESCRIPTION DRUG	**Item Code (Source)**	NDC:0085-1381
Route of Administration	INTRAVENOUS		

Active Ingredient/Active Moiety

Ingredient Name	Basis of Strength	Strength
Temozolomide (UNII: YF1K15M17Y) (Temozolomide - UNII:YF1K15M17Y)	Temozolomide	2.5 mg in 1 mL

Inactive Ingredients

Ingredient Name	Strength
mannitol (UNII: 3OWL53L36A)	15 mg in 1 mL
threonine (UNII: 2ZD004190S)	4 mg in 1 mL
polysorbate 80 (UNII: 6OZP39ZG8H)	3 mg in 1 mL
trisodium citrate dihydrate (UNII: B22547B95K)	5.9 mg in 1 mL
hydrochloric acid (UNII: QTT17582CB)	4 mg in 1 mL

Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:0085-1381-01	1 in 1 CARTON	02/27/2009	
1		40 mL in 1 VIAL, SINGLE-USE; Type 0: Not a Combination Product		

Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
NDA	NDA022277	02/27/2009	

Labeler - Merck Sharp & Dohme LLC (118446553)

Revised: 9/2023 Merck Sharp & Dohme LLC