

## U251 MG/TMZ | 305884

<b>Description</b>	U251 MG/TMZ is a cell line derived from a glioblastoma. It is characterized by its resistance to temozolomide (TMZ). The cell line is used for research on TMZ resistance mechanisms, including O6-methylguanine-DNA methyltransferase (MGMT) overexpression, DNA mismatch repair pathway, PI3K/AKT/MAPK/NF-κB pro-survival signaling, and resistance biomarker discovery. U251 MG/TMZ cells are used to study the effects of TMZ and to evaluate agents that overcome TMZ resistance. U251 MG/TMZ cells are used to study the effects of TMZ and to evaluate agents that overcome TMZ resistance. U251 MG/TMZ cells are used to study the effects of TMZ and to evaluate agents that overcome TMZ resistance. TMZ IC50 is approximately 10 μM.
<b>Organism</b>	Human
<b>Tissue</b>	Brain
<b>Disease</b>	Glioblastoma
<b>Metastatic site</b>	Primary tumor site (brain)
<b>Applications</b>	Glioblastoma TMZ resistance research; acquired chemoresistance mechanisms; MGMT overexpression; DNA mismatch repair pathway; PI3K/AKT/MAPK/NF-κB pro-survival signaling; evaluation of agents overcoming TMZ resistance; GBM recurrence modeling; resistance biomarker discovery
<b>Synonyms</b>	U-251MG, U-251-MG, U-251-MG, U-251_MG, U251-MG, U251MG, U-251, U251, U251n, U251N, U251N, 251 MG, 251MG
<b>Age</b>	75 years
<b>Gender</b>	Male
<b>Ethnicity</b>	White
<b>Morphology</b>	Epithelial
<b>Cell type</b>	Glial cells (astrocytic)
<b>Growth properties</b>	Adherent

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**Citation** U251 MG/TMZ (Cytion 305884)

**Biosafety level** 1

**NCBI\_TaxID** 9606

**CellosaurusAccession** Not assigned (U251 MG/TMZ is a selected TMZ-resistant subline; parental U251 MG CVCL\_0021)

**GMO Status** No genetic modification; TMZ resistance acquired by stepwise selection under increasing TMZ concentrations (non-engineered phenotype)

**Tumorigenic** SMRV:  $10^{-6}$  to  $10^{-8}$  cells

**Mutational profile** TMZ

**Culture Medium** DMEM 4.5 g/l, 4 mM Glucose, 3.7 mM NaHCO<sub>3</sub>, 1.0 mM Sodium Pyruvate (8200)

**Supplements** 10% FBS, 50 ng/ml TMZ

**Dissociation Reagent** Trypsin

**Doubling time** approx. 36 to 48 hours (TMZ-resistant sublines often proliferate slower than parental)

**Split ratio** 1 to 3

**Seeding density** 1 to 3 × 10<sup>4</sup> cells/cm<sup>2</sup>

**Fluid renewal** 2 to 3 times per week

**Freeze medium** DMEM + 10% DMSO

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### Thawing and Culturing Cells

1. [Redacted]
2. [Redacted]
3. [Redacted]
4. [Redacted]
5. [Redacted]
6. [Redacted]
7. [Redacted]

### Incubation Atmosphere

37 [Redacted]

### Flask Coating

[Redacted]

### Shipping Conditions

[Redacted]-78

### Storage Conditions

[Redacted]-150 -196 [Redacted]

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