

# Raltitrexed

**Catalog No: tcsc2894**



## Available Sizes

**Size:** 10mg

**Size:** 50mg

**Size:** 100mg



## Specifications

**CAS No:**

112887-68-0

**Formula:**

$C_{21}H_{22}N_4O_6S$

**Pathway:**

Apoptosis;Cell Cycle/DNA Damage

**Target:**

Thymidylate Synthase;Nucleoside Antimetabolite/Analog

**Purity / Grade:**

>98%

**Solubility:**

DMSO :  $\geq 29$  mg/mL (63.25 mM)

**Alternative Names:**

ZD1694;D1694;ICI-D1694

**Observed Molecular Weight:**

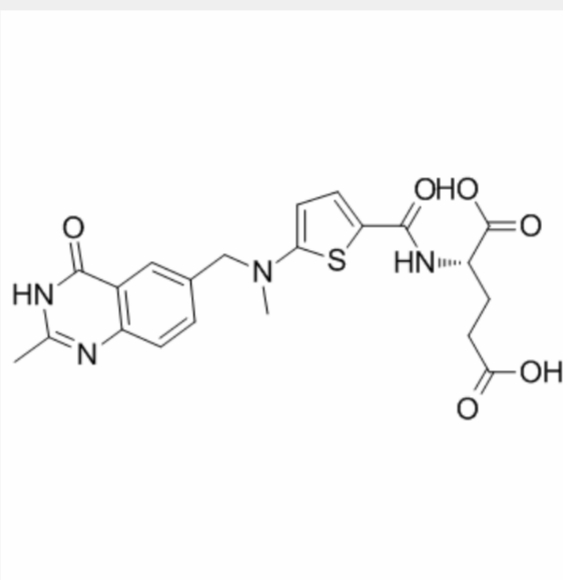
458.49

## Product Description

Raltitrexed is an inhibitor of **thymidylate synthase** and an **antimetabolite** drug used for cancer treatment.

**In Vitro:** Raltitrexed inhibits HepG2 proliferation by arresting the cell cycle at G0/G1, and the cell cycle is mediated via downregulation of cyclin A and CDK2<sup>[1]</sup>. Raltitrexed (0.1, 0.5, 2.5 µg/mL) decreases the viability of SGC7901 cells in a dose- and time-dependent manner. Raltitrexed (0.5 µg/mL) shows typical apoptotic morphology, including nuclear shrinkage, fragmentation, chromatin condensation and apoptotic bodies in SGC7901 cells. Raltitrexed blocks the cell cycle at the G0/G1 phase, decreases in the mitochondrial membrane potential. Raltitrexed also increases the level of ROS, induces caspase-3-dependent apoptosis via activation of the mitochondria, and increases TS protein and mRNA expression levels<sup>[3]</sup>. Raltitrexed (1.5 nM) reduces the number of GM00637 cells, selectively induces gene conversions, but does not affect DSB-induced HR or NHEJ<sup>[4]</sup>.

**In Vivo:** Raltitrexed (0, 5, 10, 11.5, 13.5, 15 mg/kg b/w, i.p.) increases the rates of resorbed embryos and growth retardation of murine model of NTDs in a dose dependent manner. Raltitrexed (11.5 mg/kg b/w) maximally inhibits the thymidylate synthase (TS) activity in embryonic tissue, decreases dTMP levels and while increases dUMP levels<sup>[2]</sup>.



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!