



## Linsitinib

**Catalog No: tcsc0242** 

Available Sizes
Size: 5mg
Size: 10mg
Size: 50mg
Size: 100mg
Specifications
CAS No: 867160-71-2
Formula: C <sub>26</sub> H <sub>23</sub> N <sub>5</sub> O
Pathway: Protein Tyrosine Kinase/RTK;Protein Tyrosine Kinase/RTK
Target: IGF-1R;Insulin Receptor
Purity / Grade: >98%
Solubility: DMSO: 62.5 mg/mL (148.28 mM; Need ultrasonic)
Alternative Names: OSI-906
Observed Molecular Weight: 421.49



## **Product Description**

Linsitinib is a selective inhibitor of **IGF-1R** with  $IC_{50}$  of 35 nM, and modestly potent to **InsR** with  $IC_{50}$  of 75 nM, and has no activity towards Abl, ALK, BTK, EGFR, FGFR1/2, PKA etc.

IC50 & Target: IC50: 35 nM (IGF-1R), 75 nM (InsR)

In Vitro: Linsitinib inhibits IGF-1R autophosphorylation and activation of the downstream signaling proteins Akt, ERK1/2 and S6 kinase with IC $_{50}$  of 0.028 to 0.13  $\mu$ M. Linsitinib enables an intermediate conformation of the target protein through interactions with the C-helix. Linsitinib displays favorable metabolic stability in liver microsomes. Linsitinib fully inhibits both IR and IGF-1R phosphorylation at a concentration of 1  $\mu$ M. Linsitinib inhibits proliferation of several tumor cell lines including non-small-cell lung cancer and colorectal cancer (CRC) tumor cell line with EC $_{50}$  of 0.021 to 0.810  $\mu$ M $^{[1]}$ .

In Vivo: Linsitinib inhibits tumor growth in an IGF-1R-driven xenograft mouse model, with 100% TGI and 55% regression at a dose of 75 mg/kg and 60% TGI and no regression at a dose of 25 mg/kg. Linsitinib administration induces different elimination half-lives of itself in dog, rat and mice, the elimination half-lives are 1.18 hours, 2.64 hours and 2.14 hours, respectively. Linsitinib administration at different single dose once-daily in femal Sprague-Dawley rat and femal CD-1 mouse reveal that the Vmax is not dose-proportional to Linsitinib dose. Linsitinib elevates the blood glucose levels at a dose of 25 mg/kg after 12 days administration. Linsitinib administration at a single dose of 75 mg/kg in IGF-1R-driven full-length human IGF-1R (LISN) xenograft mouse model achieve maximal inhibition of IGF-1R phosphorylation (80%) between 4 and 24 hours with plasma drug concentrations of 26.6-4.77  $\mu$ M<sup>[1]</sup>. Linsitinib administered as a single dose of at 60 mg/kg in NCI-H292 xenografts mice inhibits uptake of glucose at 2, 4, and 24 hours post-treatment in vivo. Linsitinib inhibits the growth of tumors in NCI-H292 xenograft mouse model<sup>[2]</sup>.

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