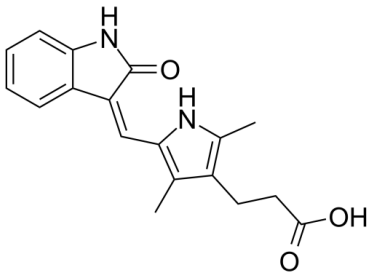
Data Sheet

Product Name:	Orantinib
Cat. No.:	CS-0197
CAS No.:	252916-29-3
Molecular Formula:	C18H18N2O3
Molecular Weight:	310.35
Target:	Apoptosis; FGFR; PDGFR; VEGFR
Pathway:	Apoptosis; Protein Tyrosine Kinase/RTK
Solubility:	DMSO : ≥ 28 mg/mL (90.22 mM)



BIOLOGICAL ACTIVITY:

Orantinib (SU6668; TSU-68) is a multi-targeted receptor tyrosine kinase inhibitor with **K_i**s of 2.1 μM, 8 nM and 1.2 μM for **Flt-1**, **PDGFR β** and **FGFR1**, respectively. **In Vitro:** Orantinib (SU6668; 0.03-10 μM) shows inhibitory activity against tyrosine phosphorylation of KDR in VEGF stimulated HUVECs, and also blocks PDGF-stimulated PDGFRβ tyrosine phosphorylation in NIH-3T3 cells overexpressing PDGFRβ. Orantinib (≥10 μM) inhibits acidic FGF-induced phosphorylation of the FGFR1 substrate 2. However, Orantinib (up to 100 μM) has no effect on EGF-stimulated EGFR tyrosine phosphorylation in NIH-3T3 cells overexpressing EGFR. Furthermore, Orantinib inhibits VEGF-driven and FGF-driven mitogenesis of HUVECs with mean IC_{50} of 0.34 μM and 9.6 μM, respectively[1]. In human myeloid leukemia MO7E cells, Orantinib (SU6668) inhibits the tyrosine autophosphorylation of stem cell factor (SCF) receptor, c-kit, with IC_{50} of 0.1-1 μM, as well as ERK1/2 phosphorylation. In addition, Orantinib suppresses SCF-induced proliferation of MO7E cells with an IC_{50} of 0.29 μM, and induces apoptosis[2]. **In Vivo:** Orantinib (SU6668; 75-200 mg/kg) causes tumor growth inhibition on several tumor types in xenograft models in athymic mice, such as A375, Colo205, H460, Calu-6, C6, SF763T, and SKOV3TP5 cells. Orantinib (75 mg/kg) also inhibits tumor angiogenesis of C6 glioma xenografts[1]. In a tumor model of HT29 human colon carcinoma, Orantinib (200 mg/kg) decreases the average vessel permeability and average fractional plasma volume in the tumor rim and core. Orantinib enhances abnormal stromal development at the periphery of carcinomas[3]. Moreover, Orantinib (TSU-68; 200 mg/kg) augments the effect of chemotherapeutic infusion in a rabbit VX2 liver tumor model[4].

References:

[1]. Laird AD, et al. SU6668 is a potent antiangiogenic and antitumor agent that induces regression of established tumors. Cancer Res, 2000, 60(15), 4152-4160.

[2]. Smolich BD, et al. The antiangiogenic protein kinase inhibitors SU5416 and SU6668 inhibit the SCF receptor (c-kit) in a human myeloid leukemia cell line and in acute myeloid leukemia blasts. Blood, 2001, 97(5), 1413-1421.

[3]. Marzola P, et al. In vivo assessment of antiangiogenic activity of SU6668 in an experimental colon carcinoma model. Clin Cancer Res, 2004, 10(2), 739-750.

[4]. Kim HC, et al. Augmentation of chemotherapeutic infusion effect by TSU-68, an oral targeted antiangiogenic agent, in a rabbit VX2 liver tumor model. Cardiovasc Intervent Radiol. 2012 Feb;35(1):168-75

CAIndexNames:

1H-Pyrrole-3-propanoic acid, 5-[(1,2-dihydro-2-oxo-3H-indol-3-ylidene)methyl]-2,4-dimethyl-

SMILES:

CC1=C(/C=C2C3=CC=CC=C3NC/2=O)NC(C)=C1CCC(O)=O

Caution: Product has not been fully validated for medical applications. For research use only.

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