Revision 3

Store at -20C

#12466

Pazopanib

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Background

Pazopanib is a multikinase inhibitor that potently targets VEGFR1 (IC_{50} = 10 nM), VEGFR2 (IC_{50} = 30 nM), VEGFR3 (IC_{50} = 47 nM), PDGFRα (IC_{50} = 71 nM), PDGFRβ (IC_{50} = 84 nM), and c-Kit (IC_{50} = 74 nM) tyrosine kinases involved in tumor progression and angiogenesis, and can also inhibit many other tyrosine kinases at nanomolar concentrations (1). Research studies have demonstrated that pazopanib effectively blocks ligand-induced autophosphorylation of VEGFR2, PDGFRβ, and c-Kit *in vitro* (1,2), and selectively inhibits VEGF-induced HUVE cell proliferation over FGF (IC_{50} = ~21 nM vs ~720 nM). Investigators have demonstrated that pazopanib inhibits the growth, survival, and migration of multiple myeloma (MM) cell types (3).

Molecular Formula

$C_{21}H_{23}N_7O_2S$

Molecular Weight

437.52 g/mol

Purity

>99%

CAS

444731-52-6

Solubility

Soluble in DMSO at 8.3mg/ml.

Storage

Store lyophilized or in solution at -20°C, desiccated. In lyophilized form, the chemical is stable for 24 months. Once in solution, use within 3 months to prevent loss of potency. Aliquot to avoid multiple freeze/thaw cycles.

Directions for Use

Pazopanib is supplied as a lyophilized powder. For a 10 mM stock, reconstitute the 10 mg in 2.29 ml DMSO. Working concentrations and length of treatment can vary depending on the desired effect, but it is typically used as a pretreatment at 0.1-10 µM for 0.5-2 hr prior to treating with a stimulator. It can also be used alone, with varying treatment times lasting up to 24 hr.

Solubility: Soluble in DMSO at 8 mg/mL with slight warming; very poorly soluble in ethanol and water with maximum in water ~10-20 µM.

Background References

1. Kumar, R. et al. (2007) *Mol Cancer Ther* 6, 2012-21.
2. Kumar, R. et al. (2009) *Br J Cancer* 101, 1717-23.
3. Podar, K. et al. (2006) *Proc Natl Acad Sci U S A* 103, 19478-83.

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