Revision 4

Store at -20C

#4401

Crizotinib

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Background

Crizotinib, also known as PF-02341066, is a novel, ATP-competitive receptor kinase inhibitor, showing high specificity for c-Met and anaplastic lymphoma kinase (ALK) over 120 other diverse kinases (1,2). Researchers have shown that crizotinib inhibits c-Met phosphorylation and c-Met-dependent proliferation, migration, and invasion of human tumor cells in vitro (IC_{50} values of 5–20 nM) (1). Crizotinib is effective against the constitutively active oncogenic fusion protein nucleophosmin (NPM)-ALK, inhibiting its phosphorylation (mean IC_{50} of 24 nM), inhibiting cell growth, and inducing G1-S phase cell cycle arrest and apoptosis in the ALK-positive ALCL (anaplastic large-cell lymphoma) cell lines KARPAS-299 and SU-DHL-1 (2).

Molecular Formula

$C_{21}H_{22}Cl_2FN_5O$

Molecular Weight

450.34 g/mol

Purity

>99%

CAS

877399-52-5

Solubility

Soluble in DMSO and EtOH at 25mg/ml.

Storage

Store lyophilized or in solution at -20ºC, 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

Crizotinib is supplied as a lyophilized powder. For a 1 mM stock, reconstitute the 2.5 mg in 5.55 ml DMSO. Working concentrations and length of treatments vary depending on the desired effect, but it is typically used at 0.1-1 µM for 2-6 h. Soluble in DMSO at 25 mg/ml with warming; very poorly soluble in water with maximum solubility ~10-20 µM.

Background References

1. Zou, H.Y. et al. (2007) *Cancer Res* 67, 4408-17.
2. Christensen, J.G. et al. (2007) *Mol Cancer Ther* 6, 3314-22.

Trademarks and Patents

Limited Uses

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