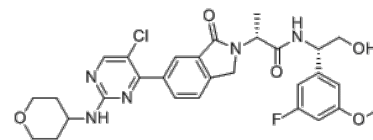


Product Name : ASTX029
Cat. No. : PC-72401
CAS No. : 2095719-92-7
Molecular Formula : C₂₉H₃₁ClFN₅O₅
Molecular Weight : 584.045
Target : ERK
Solubility : 100 mM in DMSO



Biological Activity

ASTX029 (ASTX-029) is a highly potent, selective dual-mechanism **ERK** inhibitor with IC₅₀ of <3 nM for **ERK1/2**, inhibits both ERK catalytic activity and the phosphorylation of ERK by MEK.

ASTX029 displayed high selectivity against a broad panel of kinases, and only 5 of a further 460 kinases (MAP2K6, MAP2K6S207E/T211E, PRKCN, PRKD1 and MAPK15) with IC₅₀ of <100 nM.

ASTX029 inhibited the phosphorylation of ERK substrate RSK in a dose-dependent manner in both A375 (BRAF V600E-mutant melanoma) and HCT116 (KRAS G13D-mutant colorectal) cells with IC₅₀ of 3.3 and 4 nM, respectively.

ASTX029 decreased pERK levels with a maximum inhibition of 93% and 94% in A375 and HCT116 cells, ASTX029 treatment also inhibited phosphorylation of the ERK substrate, CRAF.

ASTX029 caused a dose-dependent cell-cycle arrest in the G1-phase with an increase in apoptotic markers such as cleaved PARP and Bim.

ASTX029 (75 mg/kg, oral) modulated pharmacodynamic markers of MAPK signaling in a Colo205 subcutaneous xenograft model.

ASTX029 inhibited the proliferation of human cancer cell lines harboring MAPK-activating mutations (BRAF, KRAS, or NRAS.) with IC₅₀ of 1.8-380 nM (A375: 3.4 nM, HCT116: 28 nM).

ASTX029 demonstrated in vivo antitumor activity in a range of MAPK-activated xenograft models.

References

Munck JM, et al. *Mol Cancer Ther.* 2021 Oct;20(10):1757-1768.

Heightman TD, et al. *J Med Chem.* 2021 Aug 26;64(16):12286-12303.

Caution: Product has not been fully validated for medical applications. Lab Use Only!

E-mail: tech@probechem.com