



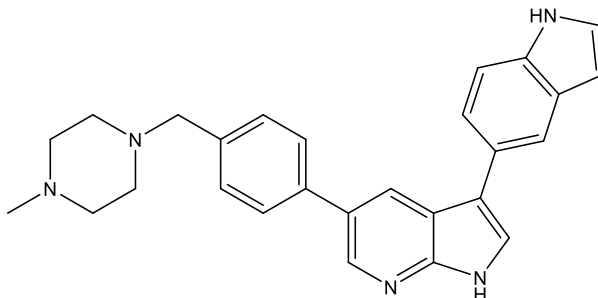
Catalog # 10-4012

URMC-099

CAS# 1229582-33-5

3-(1H-Indol-5-yl)-5-(4-((4-methylpiperazin-1-yl)methyl)phenyl)-1H-pyrrolo[2,3-b]pyridine

Lot # FBS2084



URMC-099 is a potent ($IC_{50} = 14$ nM), brain penetrant mixed-lineage kinase 3 inhibitor (MLK3). It also potently inhibits FLT3 (4 nM *in vitro*, but 560 nM *in vivo*), LRRK2 (11 nM), and ABL1 (3 nM).¹ URMC-099 displayed neuroprotective effects in HIV-associated neurocognitive disorders² and facilitated microglial amyloid- β degradation and clearance in mouse models.^{3,4} URMC-099 increased CD8⁺ T cells in mice and increased the CD8⁺GZMB⁺ T cell population in blood mononuclear cells isolated from breast cancer patients.⁵

- 1) Goodfellow *et al.* (2013), *Discovery, synthesis, and characterization of an orally bioavailable, brain penetrant inhibitor of mixed lineage kinase 3*; J. Med. Chem. **56** 8032
- 2) Marker *et al.* (2013), *The new small-molecule mixed-lineage kinase 3 inhibitor URMC-099 is neuroprotective and anti-inflammatory in models of human immunodeficiency virus-associated neurocognitive disorders*; J. Neurosci. **33** 9998
- 3) Dong *et al.* (2016), *The mixed-lineage kinase 3 inhibitor URMC-099 facilitates microglial amyloid- β degradation*; J. Neuroinflammation **13** 184
- 4) Kiyota *et al.* (2018), *URMC-099 facilitates amyloid- β clearance in a murine model of Alzheimer's disease*; J. Neuroinflammation **15** 137
- 5) Kumar *et al.* (2020), *Mixed lineage kinase 3 inhibition induces T cell activation and cytotoxicity*; Proc. Natl. Acad. Sci. USA **9** 34567

PHYSICAL DATA

Molecular Weight: 421.54
Molecular Formula: $C_{27}H_{27}N_5$
Purity: >98% TLC
NMR: (Conforms)
Solubility: Soluble in DMSO (>25 mg/ml)
Physical Description: Off-white solid
Storage and Stability: Store as supplied at -20°C for up to 1 year from the date of purchase. Store solutions at -20°C for up to 2 months.

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