

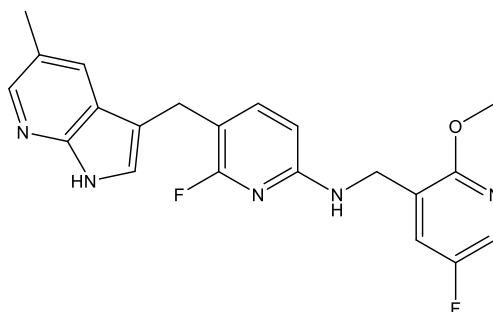
**Catalog # 10-4726**

**PLX5622**

CAS# 1303420-67-8

6-Fluoro-N-[(5-fluoro-2-methoxypyridin-3-yl)methyl]-5-[(5-methyl-1H-pyrrolo[2,3-b]pyridine-3-yl)methyl]pyridine-2-amine

Lot # FBS2177



PLX5622 is a highly selective (>20 fold over KIT and FLT3, >60 fold over 200 other kinases) and brain-penetrant inhibitor of colony-stimulating factor 1 receptor (CSF1R;  $IC_{50} = 16$  nM).<sup>1</sup> It prevented plaque formation in 5xFAD<sup>1</sup> and 3xTg<sup>2</sup> mouse models of Alzheimer's disease *via* elimination of microglia in a CSF1R-dependent manner. PLX5622 showed efficacy in a mouse neuropathic pain model *via* reduction of CD86+ macrophages resulting in reduced expression of pro-inflammatory cytokines.<sup>3</sup> It also was able to ameliorate peripheral neuropathy in aging mice.<sup>4</sup> PLX5622 displayed neuroprotective effects during the chronic phase of a traumatic brain injury mouse model.<sup>5</sup> PLX5622 has also been shown to affect myeloid and lymphoid compartments, indicating that its effects are not limited to microglia and include peripheral immune cells.<sup>6</sup>

- 1) Spangenberg *et al.* (2019) *Sustained microglial depletion with CSF1R inhibitor impairs parenchymal plaque development in an Alzheimer's disease model*; Nat. Commun. **10** 3758
- 2) Dagher *et al.* (2015) *Colony-stimulating factor 1 receptor inhibition prevents microglial plaque association and improves cognition in 3xTg-AD mice*; J. Neuroinflammation **12** 139
- 3) Lee *et al.* (2018) *Targeting macrophage and microglia activation with colony stimulating factor 1 receptor inhibitor is an effective strategy to treat injury-triggered neuropathic pain*; Moll. Pain **14** 1
- 4) Yaun *et al.* (2018) *Macrophage Depletion Ameliorates Peripheral Neuropathy in Aging Mice.*; J. Neurosci. **38** 4610
- 5) Henry *et al.* (2020) *Microglial Depletion with CSF1R Inhibitor During Chronic Phase of Experimental Traumatic Brain Injury Reduces Neurodegeneration and Neurological Deficits.*; J. Neurosci. **40** 2960
- 6) Lei *et al.* (2020) *CSF1R inhibition by a small-molecule inhibitor is not microglia specific; affecting hematopoiesis and the function of macrophages.*; Proc. Natl. Acad. Sci USA **117** 23336

**PHYSICAL DATA**

Molecular Weight:	395.41
Molecular Formula:	C <sub>21</sub> H <sub>19</sub> F <sub>2</sub> N <sub>5</sub> O
Purity:	>98% by HPLC
	NMR: (Conforms)
Solubility:	DMSO (>25 mg/ml)
Physical Description:	Pale yellow solid
Storage and Stability:	Store as supplied at -20°C for up to 2 years from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 3 months.

**Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.**