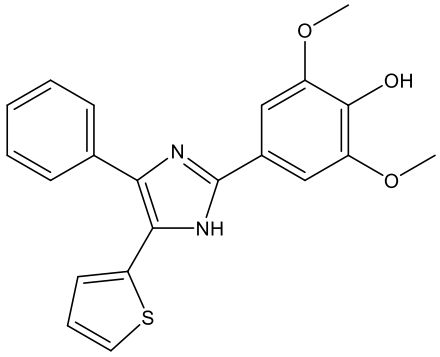
Catalog # 10-4394

DPTIP

CAS# 351353-48-5

2,6-Dimethoxy-4-(4-phenyl-5-thiophen-2-yl-1H-imidazol-2-yl)phenol

Lot # FBA9076



DPTIP is a selective, potent (IC_{50} = 30 nM), and brain penetrant inhibitor of neutral sphingomyelinase 2 (nSMase2).[1] In a mouse model of brain injury, it inhibited IL-1ß-induced astrocyte-derived extracellular vesicle release which reduced cytokine upregulation and attenuation of infiltration of immune cells to the brain leading to decreased inflammation. DPTIP displayed potent antiviral activity against Zika and West Nile viruses (EC50 Vero cells: 0.26 µM and 1.56 µM respectively).[2] DPTIP acted synergistically with enzalutamide to significantly suppress cell proliferation, colony formation, and migration of metastatic castration resistant prostate cancer cells.[3] It also reduced tumor size and weight in a prostate cancer mouse model.

1) Rojas *et al*. (2018), *DPTIP, a newly identified potent brain penetrant neutral sphingomyelinase 2 inhibitor, regulates astrocyte-peripheral immune communication following brain inflammation*; Sci. Rep. **8** 17715

2) Alvarez-Fernandez *et al*. (2022); *Allosteric Inhibition of Neutral Sphingomyelinase 2 (nSMase2) by DPTIP: From Antiflaviviral Activity to Deciphering Its Binding Site through In Silico Studies and Experimental Validation*, Int. J. Mol. Sci., **23** 13935

3) Shams *et al*. (2024), *Blockade of neutral sphingomyelinase 2 exerts antitumor effect on metastatic castration resistant prostate cancer cells and promotes tumor regression when combined with Enzalutamide*; Am. J. Cancer Res. **14** 5697

PHYSICAL DATA

Molecular Weight:	378.45
Molecular Formula:	$C_{21}H_{18}N_2O_3S$
Purity:	>98% by HPLC
	NMR: (Conforms)
Solubility:	DMSO (>25 mg/ml)
Physical Description:	Light gray 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.

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