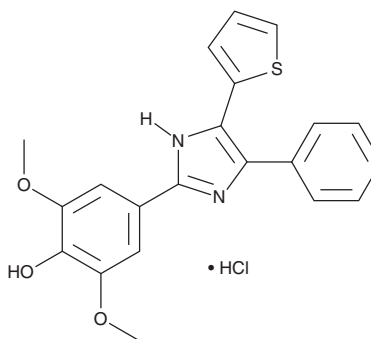


PRODUCT INFORMATION

DPTIP (hydrochloride)

Item No. 41681

CAS Registry No.: 2361799-64-4
Formal Name: 2,6-dimethoxy-4-[4-phenyl-5-(2-thienyl)-1H-imidazol-2-yl]-phenol, monohydrochloride
MF: C₂₁H₁₈N₂O₃S • HCl
FW: 414.9
Purity: ≥95%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

DPTIP (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the DPTIP (hydrochloride) in the solvent of choice, which should be purged with an inert gas. DPTIP (hydrochloride) is sparingly soluble (1-10 mg/ml) in DMSO and slightly soluble (0.1-1 mg/ml) in acetonitrile.

Description

DPTIP is an inhibitor of neutral sphingomyelinase 2 (nSMase2; IC₅₀ = 30 nM).¹ It is selective for nSMase2 over alkaline phosphatase (ALP) and acid sphingomyelinase (IC₅₀s = >100 μM for both). DPTIP reduces viral yield in Vero and HeLa cells infected with West Nile virus (EC₅₀s = 0.26 and 2.81 μM, respectively) or Zika virus (EC₅₀s = 1.56 and 1.84 μM, respectively).² It inhibits the secretion of extracellular vesicles from primary mouse astrocytes activated by FBS withdrawal in a concentration-dependent manner and prevents serum deprivation-induced astrocyte activation in primary rat astrocytes when used at a concentration of 10 μM.¹ DPTIP (10 mg/kg) reduces IL-1β-induced extracellular vesicle release from astrocytes and decreases neutrophil infiltration to the brain in a model of inflammation-induced brain injury using GFAP-GFP mice. It reduces hepatic levels of chemokine (C-C motif) ligand 2 (Ccl2), Tnf-α, IL-6, and IL-1β in the same model.

References

1. Rojas, C., Barnaeva, E., Thomas, A.G., *et al.* DPTIP, a newly identified potent brain penetrant neutral sphingomyelinase 2 inhibitor, regulates astrocyte-peripheral immune communication following brain inflammation. *Sci. Rep.* **8**, 17715 (2018).
2. Álvarez-Fernández, H., Mingo-Casas, P., Blázquez, A.B., *et al.* Allosteric inhibition of neutral sphingomyelinase 2 (nSMase2) by DPTIP: From antitumor activity to deciphering its binding site through in silico studies and experimental validation. *Int. J. Mol. Sci.* **23**(22), 13935 (2022).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM