

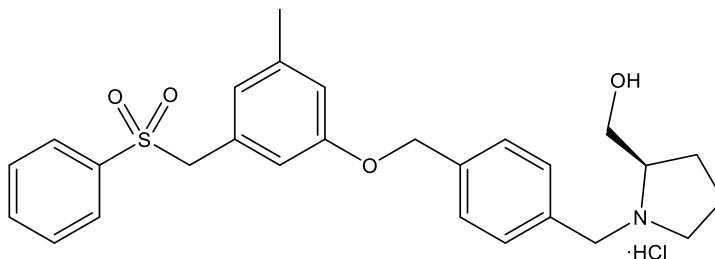
**Catalog # 10-4998**

**PF-543 HCl**

CAS# 1706522-79-3

[(2R)-1-[[4-[[3-(Benzenesulfonylmethyl)-5-methylphenoxy]methyl]phenyl]methyl]pyrrolidin-2-yl]methanol hydrochloride

Lot # FBS3047



PF-543 is a potent ( $IC_{50} = 2.0$  nM) and selective (>100-fold over SphK2) reversible inhibitor of sphingosine kinase-1 (SphK1).<sup>1</sup> It induced autophagy in head and neck squamous cell carcinoma cells.<sup>2</sup> PF-543 mitigated pulmonary fibrosis via reducing lung epithelial cell mitochondrial DNA damage and monocyte recruitment.<sup>3</sup> It also alleviated sepsis-induced lung injury in an acute ethanol intoxication model in mice.<sup>4</sup> PF-543 inhibited cell cycle and tumor growth in a xenograft model of non-small cell lung cancer.<sup>5</sup>

- 1) Schnute *et al.* (2012), *Modulation of cellular S1P levels with a novel, potent and specific inhibitor of sphingosine kinase-1*; *Biochem. J.* **444** 79
- 2) Hamada *et al.* (2017); *Induction of autophagy by sphingosine kinase 1 inhibitor PF-543 in head and neck squamous cell carcinoma cells*, *Cell Death Discov.* **3** 17047
- 3) Cheresch *et al.* (2020); *The Sphingosine Kinase 1 Inhibitor, PF543, Mitigates Pulmonary Fibrosis by Reducing Lung Epithelial Cell mtDNA Damage and Recruitment of Fibrogenic Monocytes*, *Int. J. Mol. Sci.* **21** 5595
- 4) Chen *et al.* (2021); *Blocking SphK1/S1P/S1PR1 Signaling Pathway Alleviates Lung Injury Caused by Sepsis in Acute Ethanol Intoxication in Mice*, *Inflammation* **44** 2170
- 5) Lin *et al.* (2022); *Targeting SPHK1/PBX1 Axis Induced Cell Cycle Arrest in Non-Small Cell Lung Cancer*, *Int. J. Mol. Sci.* **23** 12741

**PHYSICAL DATA**

Molecular Weight:	502.07
Molecular Formula:	C <sub>27</sub> H <sub>31</sub> NO <sub>4</sub> S·HCl
Purity:	>98% by HPLC
	NMR: (Conforms)
Solubility:	DMSO (50 mg/ml); water (5 mg/ml with warming)
Physical Description:	White 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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