NEUROMICS

NSC23766 Data Sheet

Catalog Number:	MC11114	**Product Type:**	Small Molecule
Bio-Activity:	Rac1 GTPase inhibitor	**CAS #:**	733767-34-5
Research Categories:	Stem cells, angiogenesis, cancer	**Chemical Name:**	N6-[2-[[4-(Diethylamino)-1-methylbutyl]amino]-6-methyl-4-pyrimidinyl]-2-methyl-4,6-quinolinediamine trihydrochloride
Solubility:	Soluble in DMSO (up to 50 mg/ml) or in Water (up to 50 mg/ml).	**Molecular Formula:**	C24H35N7 · 3HCl
Purity:	> 98%	**Molecular Weight:**	531.0
Format:	Powder	**Ship Temp:**	Ambient
Storage:	Room Temperature		

Application Notes

Description/Data:
Selective inhibitor of Rac1-GEF interaction. Prevents Rac1 activation by Rac-specific guanine nucleotide exchange factors (GEFs) Trio and Tiam1 (IC50 ca. 50 μM) with no effect on the closely related Cdc42 or RhoA. In cells, it blocks serum or PDGF-induced Rac-1 activation and lamellipodia formation. NSC-23766 suppressed the growth of wild-type NIH 3T3 cells but was inactive in cells expressing the constitutively active Rac1 mutant, L61Rac1 [1]. It is a useful tool to probe the involvement of Rac1 in cell signalling [2]. Off target effect: antagonist at muscarinic acetylcholine receptors [3]. Cell permeable.

References:

1) Gao et al. (2004), Rational design and characterization of a RAc GTPase-specific small molecule inhibitor; Proc. Natl. Acad. Sci. USA, 101 7618

2) Shankar et al. (2013), Raft endocytisus of AMF regulates mitochondrial dynamics through Rac1 signaling and the Gp78 ubiquitin ligase; J. Cell Sci., 126 3295

3) Levay et al. (2013), NSC23766, a widely used inhibitor of Rac1 activation, additionally acts as a competitive antagonist at muscarinic acetylcholine receptors; J. Pharmacol. Exp. Ther., 347 69

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