Small Molecules

QNZ

NF-kB pathway inhibitor; Inhibits NF-kB

Catalog # 73352

1 mg

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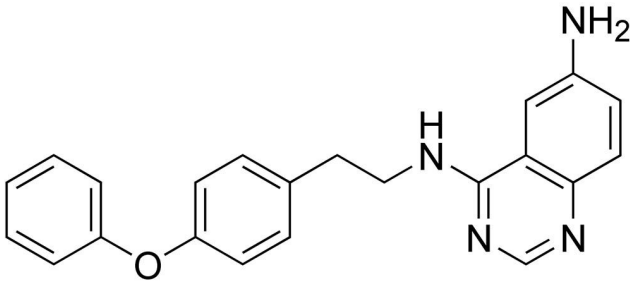
Product Description

QNZ is a quinazoline derivative that inhibits nuclear factor (NF)-κB activation (IC_{50} = 11 nM in human Jurkat T lymphocyte cells). NF-κB enhances the transcription of pro-inflammatory cytokines, and QNZ inhibits lipopolysaccharide (LPS)-stimulated tumor necrosis factor (TNF)-α production in mouse splenocytes (IC_{50} = 7 nM; Tobe et al.), as well as CXCL1-mediated pro-inflammatory increase in potassium currents in adult rat neurons (Yang et al). It does not inhibit kinases in a standard screen (Wu et al.).

Molecular Name:	QNZ
Alternative Names:	CAY10470
CAS Number:	545380-34-5
Chemical Formula:	$C_{22}H_{20}N_4O$
Molecular Weight:	356.4 g/mol
Purity:	≥ 98%
Chemical Name:	N4-[2-(4-phenoxyphenyl)ethyl]-4,6-quinazolinediamine
Structure:	



Properties

Physical Appearance:	A crystalline solid
Storage:	Product stable at -20°C as supplied. Protect from prolonged exposure to light. Stable as supplied for 12 months from date of receipt.
Solubility:	· DMSO ≤ 55 mM · Absolute ethanol ≤ 25 mM For example, to prepare a 10 mM stock solution in DMSO, resuspend 1 mg in 281 µL of DMSO. Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application. Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.

Published Applications

MAINTENANCE AND SELF-RENEWAL
· Neuroprotective in a glutamate toxicity assay using YAC128 medium spiny neuron cultures (Wu et al.).
DISEASE MODELING
· Blocks amyloid precursor protein release in human SH-SY5Y neuroblastoma cells caused by muscarinic receptor activation (Choi et al.).

References

Choi S et al. (2006) Nuclear factor-kappaB activated by capacitative Ca2+ entry enhances muscarinic receptor-mediated soluble amyloid precursor protein (sAPPalpha) release in SH-SY5Y cells. J Biol Chem 281(18): 12722–8.
Tobe M et al. (2003) Discovery of quinazolines as a novel structural class of potent inhibitors of NF-kappa B activation. Bioorg Med Chem 11(3): 383–91.
Wu J et al. (2011) Neuronal store-operated calcium entry pathway as a novel therapeutic target for Huntington's disease treatment. Chem Biol 18(6): 777–93.
Yang R-H et al. (2009) NF-kappaB mediated enhancement of potassium currents by the chemokine CXCL1/growth related oncogene in small diameter rat sensory neurons. Mol Pain 5:26.

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