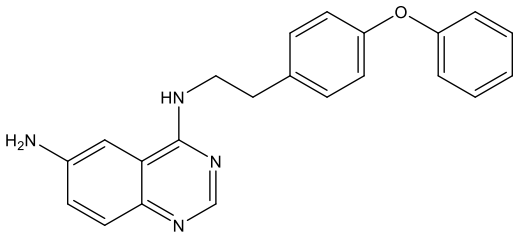
Catalog # 10-4009
QNZ

CAS# 545380-34-5

4-N-[2-(4-Phenoxyphenyl)ethyl]quinazoline-4,6-diamine; EVP4593

Lot # FBS2064



QNZ was originally described as a potent inhibitor of NF-κB activation (IC_{50} = 11 nM) and TNF-α production (IC_{50} = 7 nM).[1,2] It indirectly inhibits the NF-κB pathway via inhibition of store-operated calcium entry (SOC) and displayed neuroprotective effects in transgenic fly and mouse models of Huntington's disease.[3,4] Its target has been postulated to be heteromeric calcium channels containing TRPC1 as one of the subunits.[4] QNZ reduced synaptic neuronal SOC and rescued dendritic spine loss in YAC128 striatal medium spiny neurons.[5] QNZ has also been identified as a potent (IC_{50} = 25 nM complex 1 from *Y.lipolytica*; IC_{50} = 14 nM complex 1 from *Bos Taurus* heart mitochondria) and selective inhibitor of mitochondrial complex I.[6] QNZ decreased PSEN1ΔE9-mediated nSOCE upregulation and rescued mushroom spines in PSEN1ΔE9-expressing neurons, which are linked to familial Alzheimer's disease.[7]

1) Tobe *et al*. (2003), *Discovery of quinazolines as a novel structural class of potent inhibitors of NF-kappa B activation;* Bioorg. Med. Chem. Lett, **11** 383
2) Tobe *et al*. (2003), *A novel structural class of potent inhibitors of NF-kB activation: structure-activity relationships and biological effects of 6-aminoquinazoline derivatives;* Bioorg. Med. Chem. Lett, **11** 3869
3) Choi *et al*. (2006), *Nuclear factor-kappaB activated by capacitive Ca2+ entry enhances muscarinic receptor-mediated soluble amyloid precursor protein (sAPPalpha) release in SH-SY5Y cells;* J. Biol. Chem., **281** 12722
4) Wu *et al*. (2011), *Neuronal Store-Operated Calcium Entry Pathway as a Novel Therapeutic Target for Huntington's Disease Treatment;* Chem. Biol., **18** 777
5) Wu *et al*. (2016), *Enhanced Store-Operated Calcium Entry Leads to Striatal Synaptic Loss in a Huntington's Disease Mouse Model;* J. Neurosci., **36** 125
6) Krishnathas *et al*. (2017), *Identification of 4-N-[2-(4-phenoxyphenyl)ethyl]quinazoline-4,6-diamine as a novel, highly potent and specific inhibitor of mitochondrial complex I*; Medchemcomm. **8** 657
7) Chernyuk *et al*. (2019), *Antagonist of neuronal store-operated calcium entry exerts beneficial effects in neurons expressing PSEN1ΔE9 mutant linked to familial Alzheimer disease;* Neuroscience, **410** 118

PHYSICAL DATA

Molecular Weight:	356.42
Molecular Formula:	$C_{22}H_{20}N_4O$
Purity:	98% by HPLC
	NMR: (Conforms)
Solubility:	DMSO (20 mg/ml)
Physical Description:	Pale yellow solid
Storage and Stability:	Store as supplied desiccated at -20°C for up to 1 year from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 1 month.

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