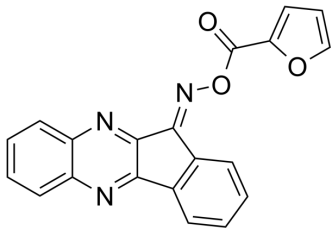
IQ-3

Cat. No.:	HY-107600
CAS No.:	312538-03-7
Molecular Formula:	$C_{20}H_{11}N_3O_3$
Molecular Weight:	341.32
Target:	JNK
Pathway:	MAPK/ERK Pathway
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 25 mg/mL (73.25 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.9298 mL	14.6490 mL	29.2980 mL
	5 mM	0.5860 mL	2.9298 mL	5.8596 mL
	10 mM	0.2930 mL	1.4649 mL	2.9298 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

IQ-3 is a specific inhibitor of the c-Jun N-terminal kinase (JNK) family, with preference for JNK3. IQ-3 exhibits K_d values of 0.24 μM, 0.29 μM and 0.066 μM for JNK1, JNK2 and JNK3, respectively[1].

IC_{50} & Target

JNK3 0.066 μM (Kd)	JNK1 0.24 μM (Kd)	JNK2 0.29 μM (Kd)	CK1δ 0.56 μM (Kd)
PI3Kγ 0.43 μM (Kd)	MKNK2 1.2 μM (Kd)		

In Vitro

IQ-3 exhibits IC_{50} of 2.2 μM (TNF-α in human monoMac-6 cells), 1.5 μM (IL-6 in human monoMac-6 cells), 4.7 μM (TNF-α in human PBMCs), 9.1 μM (IL-6 in human PBMCs) and 6.1 μM (NO in murine J774.A1), respectively[1].

IQ-3 exhibits an IC_{50} of 1.4 μM for inhibiting LPS-induced NF-κB/AP-1 transcriptional activity in human THP-1 Blue monocytic cells[1].

IQ-3 is indeed a competitive inhibitor for the ATP binding site of JNK3[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	PBMCs.
Concentration:	0-80 μM (200 ng/mL LPS).
Incubation Time:	30 min.
Result:	Downregulated TNF-α concentration (IC_{50} = 4.7 μM).

CUSTOMER VALIDATION

- J Ethnopharmacol. 2021 Aug 11;281:114438.

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REFERENCES

[1]. Igor A Schepetkin, et al. Identification and characterization of a novel class of c-Jun N-terminal kinase inhibitors. Mol Pharmacol. 2012 Jun;81(6):832-45.

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