IXA4

Cat. No.: HY-139214

CAS No.: 1185329-96-7

Molecular Formula: $C_{24}H_{28}N_4O_4$

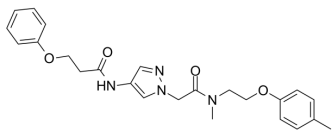
Molecular Weight: 436.5

Target: IRE1

Pathway: Cell Cycle/DNA Damage

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	1 year
	-20°C	6 months



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (229.10 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.2910 mL	11.4548 mL	22.9095 mL
	5 mM	0.4582 mL	2.2910 mL	4.5819 mL
	10 mM	0.2291 mL	1.1455 mL	2.2910 mL

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

In Vivo

1. Add each solvent one by one: 50% PEG300 >> 50% saline
   Solubility: 5 mg/mL (11.45 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (5.73 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.73 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

IXA4 is a highly selective, non-toxic IRE1/XBP1s activator. IXA4 activates IRE1/XBP1s signaling without globally activating the unfolded protein response (UPR) or other stress-responsive signaling pathways (e.g., the heat shock response or oxidative stress response). IXA4 reduces secretion of APP through IRE1 activation[1].

In Vitro

IXA4 (10 μM; 4 hours) selectively upregulates XBP1s mRNA, relative to genes regulated by ATF6 (e.g., BiP) or PERK (e.g., CHOP), in other cell lines including Huh7 and SHSY5Y cells[1].
IXA4 (10μM; 18 hours) reduces Aβ levels 50% in conditioned media prepared on CHO7PA2 cells expressing the V717F APP

(APPV717F) mutant[1].
IXA4 rescues mitochondrial defects in SH-SY5Y cells expressing disease-relevant APP mutants. IXA4 (10μM; 4 hours) promotes adaptive IRE1/XBP1s signaling, but not RIDD, following 4 hrs of treatment in HEK293T cells[1].
IXA4 also promotes selective transcriptional remodeling of ER proteostasis pathways, relative to cytosolic or mitochondrial pathways[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Nat Commun. 2023 Nov 17;14(1):7441.

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REFERENCES

[1]. Grandjean JMD, et al. Pharmacologic IRE1/XBP1s activation confers targeted ER proteostasis reprogramming. Nat Chem Biol. 2020;16(10):1052-1061.

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