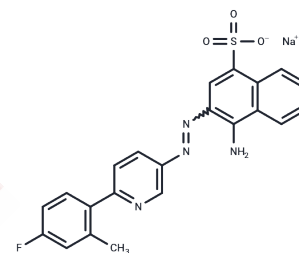


KUS121

Chemical Properties

CAS No. : 1357164-52-3
 Formula: C₂₂H₁₆FN₄NaO₃S
 Molecular Weight: 458.44
 Storage: Store at low temperature
 Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.



Biological Description

Description	KUS121 is a valosin-containing protein modulator that inhibits VCP ATPase activity with an IC ₅₀ of 330 nM, suppresses tunicamycin-induced ATP depletion, cell death, and CHOP upregulation in HeLa cells, protects primary cortical neurons from oxygen-glucose deprivation injury in vitro, reduces infarct volume and improves motor performance in mouse models of focal cerebral ischemia, and preserves retinal structure and visual function in rd10 retinitis pigmentosa models, supporting its investigation in neuroprotection and ischemic disease research.
Targets(IC ₅₀)	Others
In vivo	In animal models of ischemic retinal injury, intravitreal (IVT) injection of KUS121 (25 ug/eye) mitigates retinal damage. The administration is associated with the suppression of inner retinal layer thinning at 7 and 14 days post-injury, preserving retinal morphology and visual function. In rd10 mice (a model for retinitis pigmentosa), KUS121 inhibits the thinning of the outer nuclear layer and maintains visual acuity. These in vivo effects are linked to the suppression of Endoplasmic Reticulum (ER) stress, characterized by reduced expression of the marker CHOP, activation of the mTOR signaling pathway, and inhibition of apoptosis [1][2][3][4].

Solubility Information

Solubility	DMSO: 48 mg/mL (104.7 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.1813 mL	10.9066 mL	21.8131 mL
5 mM	0.4363 mL	2.1813 mL	4.3626 mL
10 mM	0.2181 mL	1.0907 mL	2.1813 mL
50 mM	0.0436 mL	0.2181 mL	0.4363 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Ikeda, et al. Novel VCP modulators mitigate major pathologies of rd10, a mouse model of retinitis pigmentosa. *Sci. Rep.* 45970(2014)

Kinoshita, H. , et al. KUS121, a valosin-containing protein modulator, attenuates ischemic stroke via preventing ATP depletion. *Sci. Rep.* 9(1)11519(2019)

KUS121, a VCP modulator, attenuates ischemic retinal cell death via suppressing endoplasmic reticulum stress. *Sci Rep.* 2017 Mar 20:7:44873.

Tomoko Hasegawa, et al. Neuroprotective efficacies by KUS121, a VCP modulator, on animal models of retinal degeneration. *Sci Rep.* 2016 Aug 9:6:31184.

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