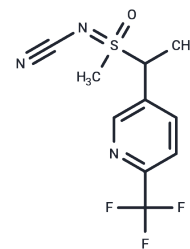


Sulfoxaflor

Chemical Properties

CAS No. :	946578-00-3
Formula:	C10H10F3N3OS
Molecular Weight:	277.27
Storage:	Store at low temperature, Keep away from moisture, Keep away from direct sunlight Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



Biological Description

Description	Sulfoxaflor (GF 2032) is an agonist of nAChR1 and nAChR2 subtypes and a systemic insecticide that acts on the insect central nervous system. Sulfoxaflor was found to have some effects on peripheral blood lymphocytes and is used to control sap-feeding insects such as brown planthopper, whitefly, peach aphid, and cotton aphid.
Targets(IC50)	AChR
In vitro	METHODS: Blood lymphocytes were treated with Sulfoxaflor (GF 2032) (10 µg/mL, 20 µg/mL, 40 µg/mL), and single cell gel electrophoresis (comet electrophoresis), cytokinesis block micronucleus assay (MN assay), flow cytometry, and catalase (CAT) enzyme activity measurement were used to determine genotoxicity, apoptotic effects, and oxidative damage potential, respectively. RESULTS CPBI values and the number of viable cells decreased; the number of late apoptotic and necrotic cells, micronucleus frequency, and comet assay parameters (GDI and DCP) increased; an increase in CAT enzyme levels was observed at 10 and 20 µg/mL concentrations, and CAT enzyme activity was inhibited at 40 µg/mL. [3]
In vivo	METHODS: Sulfoxaflor (GF 2032) (25, 100, and 500 mg/kg, gavage, 4 weeks) was administered to rats and the relative testicular mass, testosterone, FSH, LH, MDA, and GPx levels, sperm motility, sperm morphology, sperm DNA damage, and histopathological changes in the testis, epididymis, and seminal vesicle were examined. RESULTS Sulfoxaflor exposure resulted in an increase in FSH, LH, MDA, and GPx levels in sperm, as well as the percentage of dead and abnormal sperm and DNA damage in rat sperm. [2]

Solubility Information

Solubility	DMSO: 130 mg/mL (468.86 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (7.21 mM), Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and</i>

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In vivo Formulation	<i>used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.6066 mL	18.033 mL	36.0659 mL
5 mM	0.7213 mL	3.6066 mL	7.2132 mL
10 mM	0.3607 mL	1.8033 mL	3.6066 mL
50 mM	0.0721 mL	0.3607 mL	0.7213 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

Houchat JN, et al. Mode of action of sulfoxaflor on α -bungarotoxin-insensitive nAChR1 and nAChR2 subtypes: Inhibitory effect of imidacloprid. *Neurotoxicology*. 2019 Sep;74:132-138.

Mohamed WH, et al. Reproductive effects of sulfoxaflor in male Sprague Dawley rats. *Environ Sci Pollut Res Int*. 2022 Jun;29(30):45751-45762.

Sinaci C, et al. Sulfoxaflor insecticide exhibits cytotoxic or genotoxic and apoptotic potential via oxidative stress-associated DNA damage in human blood lymphocytes cell cultures. *Drug Chem Toxicol*. 2023 Nov;46(5):972-983.

Watson GB, Olson MB, Beavers KW, Loso MR, Sparks TC. Characterization of a nicotinic acetylcholine receptor binding site for sulfoxaflor, a new sulfoximine insecticide for the control of sap-feeding insect pests. *Pestic Biochem Physiol*. 2017 Nov;143:90-94. doi: 10.1016/j.pestbp.2017.09.003. Epub 2017 Sep 6. PubMed PMID: 29183616.

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