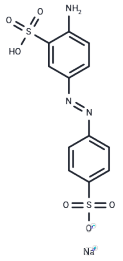
Data Sheet (Cat.No.T18910)

TargetMol

Acid Yellow 9 monosodium salt

Chemical Properties



CAS No. : 74543-21-8

Formula: C12H10N3NaO6S2

Molecular Weight: 379.34

Storage: Keep away from direct sunlight
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	Acid Yellow 9 monosodium salt (Hydrogen 4-aminoazobenzene-3,4'-disulphonate (sodium salt)) is an azo dye, degraded by Pseudomonas fluorescens as a sole source of nitrogen, carbon, and energy for the bacterium.
Targets(IC50)	Others
In vitro	I. For bacterial degradation studies 1. Cultivate bacteria: Cultivate Pseudomonas fluorescens in a suitable nutrient medium. 2. Add dye: Add Acid Yellow 9 monosodium salt (usually at a concentration of 50-200 mg/L) to the medium to provide the dye as the only source of carbon and nitrogen. 3. Cultivate: Cultivate at a suitable growth temperature (usually 30-37°C) and monitor bacterial growth and dye degradation. 4. Monitor degradation: Use an ultraviolet-visible spectrophotometer (UV-Vis) or liquid chromatography (HPLC) to detect the reduction in dye concentration or degradation products. II. For bioremediation studies 1. Contaminated water sample: Prepare wastewater or water sample containing Acid Yellow 9 with a known dye concentration. 2. Inoculate bacteria: Inoculate Pseudomonas fluorescens or other suitable microorganisms into the wastewater. 3. Monitor degradation: Regularly monitor the degradation of Acid Yellow 9 and track changes in dye concentration using a spectrophotometer or chromatography. 4. Evaluation of remediation effect: Evaluate the effect of microbial treatment by analyzing the degradation of dyes and comparing with control samples. III. For environmental toxicity testing: 1. Toxicity test: Expose different concentrations of Acid Yellow 9 monosodium salt to Pseudomonas fluorescens or other environmental microorganisms to monitor bacterial growth and metabolic activity. 2. Biodegradation evaluation: Evaluate the degradation ability and growth of microorganisms in the presence of the dye by tracking changes in dye concentration. IV. For dye and pigment research 1. Dye exposure study: Expose different concentrations of Acid Yellow 9 monosodium salt to microbial culture medium to study the degradation pathway of microorganisms. 2. Enzyme activity analysis: Use enzyme activity assay to evaluate the enzyme system of bacteria that decompose dyes and further explore its degradation mechanism.

In vitro	The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

Solubility Information

Solubility	DMSO: 55 mg/mL (144.99 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.6362 mL	13.1808 mL	26.3616 mL
5 mM	0.5272 mL	2.6362 mL	5.2723 mL
10 mM	0.2636 mL	1.3181 mL	2.6362 mL
50 mM	0.0527 mL	0.2636 mL	0.5272 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

Le HV, et al. A sulfonate ligand-defected Zr-based metal-organic framework for the enhanced selective removal of anionic dyes. RSC Adv. 2024 May 21;14(23):16389-16399.