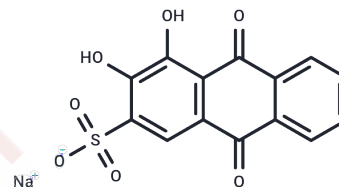


Alizarin Red S sodium

Chemical Properties

CAS No. :	130-22-3
Formula:	C ₁₄ H ₇ NaO ₇ S
Molecular Weight:	342.26
Appearance:	no data available
Storage:	keep away from direct sunlight Powder: -20°C for 3 years In solvent: -80°C for 1 year



Biological Description

Description	Alizarin Red S sodium (ARS sodium) is an anthraquinone dye widely used to evaluate calcium deposits in cell culture[1].
Targets(IC50)	Others
Cell Research	<p>Solution preparation Preparation of mother solution: Prepare a 2% Alizarin Red S sodium aqueous solution. Preparation of working solution: Use ammonium hydroxide to adjust the pH to 4.2, filter the solution with a 0.45 µm microfilter and store it in an amber bottle and re-filter the solution with a 0.22 µm microfilter before use.</p> <p>I. Detection of osteoblast differentiation by Alizarin Red S sodium Operation steps 1. Induce osteoblast differentiation: MC3T3-E1 cells were seeded on four-well plates at 1×10⁵ cells per well and cultured in α-MEM (without ascorbic acid) containing 10% fetal bovine serum. Osteoblast differentiation was induced with osteogenic medium (OSM) containing ascorbic acid (50 µg/mL) and β-glycerophospholipids (10 mM). 2. Staining: MC3T3-E1 cells were washed with 1×PBS, fixed with 70% ethanol at room temperature for 10 min, rinsed with distilled water, and stained with Alizarin Red S for 10 min to detect calcium deposition in the matrix. 3. Data analysis: The area of the red area is proportional to osteoblast differentiation.</p> <p>2. Screening test of calcium compounds in synovial fluid by Alizarin Red S sodium 1. Synovial fluid preparation: Aspirate the synovial fluid into a disposable syringe, and then transfer the fluid to a clean test tube containing sodium heparin anticoagulant; 2. Staining: Aspirate a drop of synovial fluid from the bottom of the test tube, place it on a clean slide, mix it with a drop of 2% Alizarin Red S, and cover it with a coverslip; c3 Within three minutes after mixing, observe it under an ordinary optical microscope, and grade the degree of orange-red staining density observed in each high-power field of view. The area of the red area is proportional to the content of calcium compounds.</p>

Solubility Information

A DRUG SCREENING EXPERT

Solubility	DMSO: 50 mg/mL (146.09 mM),Sonication is recommended. H2O: 10 mg/mL (29.22 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	2.9218 mL	14.6088 mL	29.2176 mL
5 mM	0.5844 mL	2.9218 mL	5.8435 mL
10 mM	0.2922 mL	1.4609 mL	2.9218 mL
50 mM	0.0584 mL	0.2922 mL	0.5844 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.

Reference

Paul H, et al. Alizarin red S staining as a screening test to detect calcium compounds in synovial fluid. Arthritis Rheum. 1983 Feb;26(2):191-200. doi: 10.1002/art.1780260211. PMID: 6186260.

Lim S, et al. Stimulatory Effects of KPR-A148 on Osteoblast Differentiation and Bone Regeneration. Tissue Eng Regen Med. 2019 Jul 17;16(4):405-413.

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