Resazurin sodium

Cat. No.: HY-111391

CAS No.: 62758-13-8

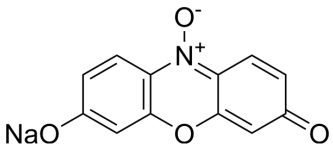
Molecular Formula: $C_{12}H_6NNaO_4$

Molecular Weight: 251.17

Target: Bacterial

Pathway: Anti-infection

Storage: 4°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 5 mg/mL (19.91 mM; ultrasonic and warming and heat to 60°C)
DMSO : 2 mg/mL (7.96 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.9814 mL	19.9068 mL	39.8137 mL
	5 mM	0.7963 mL	3.9814 mL	7.9627 mL
	10 mM	0.3981 mL	1.9907 mL	3.9814 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (8.28 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (8.28 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Resazurin sodium (Diazoresorcinol sodium) is commonly used to measure bacterial and eukaryotic cell viability through its reduction to the fluorescent product resorufin.

In Vitro

Resazurin sodium (Diazoresorcinol sodium) is commonly used to measure bacterial and eukaryotic cell viability through its reduction to the fluorescent product resorufin. No viable bacteria are detected 24 h post-inoculation following inclusion of Resazurin sodium in TSBc cultures of F. tularensis LVS at the concentration of 44 μM. Lowering the Resazurin sodium concentration to as little as 4.4 μM still results in a 10-fold reduction in viable F. tularensis LVS compare to growth medium alone. Both Resazurin sodium treatments result in a significant decrease in viable F. tularensis LVS bacteria over 22 h. Treatment with Resazurin sodium significantly reduces the number of viable F. tularensis LVS bacteria in HEK293 cells 22 h post-infection[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [1]

F. tularensis is cultured in TSBc supplemented with 44 μM Resazurin sodium salt at 37°C with shaking for 24 h. At select time points, a Spectronic 200 Spectrophotometer is used to measure the absorbance at 600 nm and 570 nm to detect the presence of Resazurin sodium salt and resorufin, respectively. The ratio of these two optical densities is used to evaluate reduction of Resazurin sodium salt to resorufin over time[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Nat Metab. 2021 Oct 18.
- Acta Pharm Sin B. 2023 Feb 4.
- bioRxiv. 2023 Apr 8.

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REFERENCES

[1]. Schmitt DM, et al. The use of resazurin as a novel antimicrobial agent against Francisella tularensis. Front Cell Infect Microbiol. 2013 Dec 6;3:93.

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