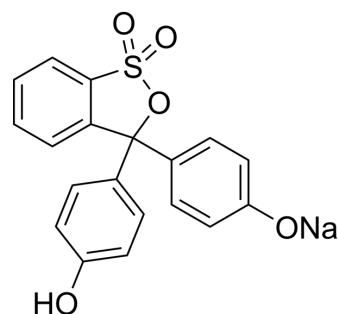


Phenol Red sodium salt

Cat. No.:	HY-D0169A
CAS No.:	34487-61-1
Molecular Formula:	C ₁₉ H ₁₃ NaO ₅ S
Molecular Weight:	376.36
Target:	Fluorescent Dye; Glutathione Peroxidase
Pathway:	Others; Apoptosis; Metabolic Enzyme/Protease
Storage:	Store at room temperature, keep dry and cool
	In solvent -80°C 2 years
	-20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 5 mg/mL (13.29 mM; Need ultrasonic)
 H₂O : < 0.1 mg/mL (ultrasonic) (insoluble)

Concentration	Mass		
	1 mg	5 mg	10 mg
1 mM	2.6570 mL	13.2852 mL	26.5703 mL
5 mM	0.5314 mL	2.6570 mL	5.3141 mL
10 mM	0.2657 mL	1.3285 mL	2.6570 mL

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

BIOLOGICAL ACTIVITY

Description

Phenol red (Phenolsulfonephthalein) sodium salt is a pH indicator dye. Phenol Red sodium salt is also an antagonist of rat P2X1R. Phenol Red sodium salt enhances the halogenating activity of myeloperoxidase. Phenol Red sodium salt shows a distinct color change from pink to yellow in a positive pH reaction^{[1][2][3][4]}.

In Vitro

Phenol Red sodium salt acts as an indicator of AChE activity^[4]

1. Solutions Preparation

Concentration of Phenol Red sodium salt in water is set to 500 μM.

2. Reaction

1) Thirty-five microliters of PBS, 25 μL of PBS 7.4 or tacrine solution, 20 μL of Phenol Red sodium salt, and 20 μL of 5 mM AChCl are consequently added to the surface of paper with immobilized AChE.

2) After 5 min of incubation, the surface of the paper is photographed using a smart phone camera placed on a 3D-printed, tube-shaped holder.

Note: in neutral pH of PBS 7.4, Phenol red gives a red color. After addition of AChCl, immediately forming acetic acid acidifying medium and the Phenol Red sodium salt turns yellow.

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

PROTOCOL

Cell Assay ^{[1][2]}

Phenol red is dissolved in 0.1% ethanol. To determine the effect of phenol red on cell proliferation, MCF-7 cells grown for 1 week before experiments in phenol red-free MEM supplemented are harvested and seeded into T-25 flasks (ca. 1.5×10^5 cells per flask). The following day, cells from three flasks are harvested and counted with a Coulter Counter. Then the medium is changed to phenol red- and insulin-free MEM, which contains various concentrations of dextran-coated charcoal-treated calf serum, phenol red (0-300 μ M), tamoxifen, hydroxytamoxifen, estradiol, or ethanol vehicle (0.1%), and cell number is monitored as a function of time^[1]. Phenol Red sodium salt is dissolved in distilled water as a 10 g/L stock solution^[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- STAR Protoc. 2024 Jun 26;5(3):103156.

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REFERENCES

- [1]. King BF, et al. Antagonism of ATP responses at P2X receptor subtypes by the pH indicator dye, Phenol red. *Br J Pharmacol.* 2005 Jun;145(3):313-22.
- [2]. Kostelnik A, et al. Color Change of Phenol Red by Integrated Smart Phone Camera as a Tool for the Determination of Neurotoxic Compounds. *Sensors (Basel).* 2016 Sep 7;16(9):1212.
- [3]. Morgan A, et al. Caution for the routine use of phenol red - It is more than just a pH indicator. *Chem Biol Interact.* 2019;310:108739.
- [4]. Peltzer D, et al. Rapid and simple colorimetric loop-mediated isothermal amplification (LAMP) assay for the detection of Bovine alphaherpesvirus 1. *J Virol Methods.* 2021;289:114041.

Caution: Product has not been fully validated for medical applications. For research use only.

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