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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Hematoxylin

Cat. No.: HY-N0116

CAS No.: 517-28-2

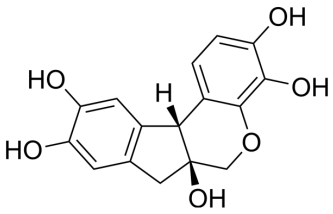
Molecular Formula: $C_{16}H_{14}O_6$

Molecular Weight: 302.28

Target: Amyloid-β

Pathway: Neuronal Signaling

Storage: 4°C, protect from light
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (165.41 mM; Need ultrasonic)
H_2O : 6.67 mg/mL (22.07 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.3082 mL	16.5410 mL	33.0819 mL
5 mM	0.6616 mL	3.3082 mL	6.6164 mL
10 mM	0.3308 mL	1.6541 mL	3.3082 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 4.17 mg/mL (13.80 mM); Clear solution; Need ultrasonic and warming and heat to 60°C
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (8.27 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (8.27 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.27 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Hematoxylin (Natural Black 1), a naturally occurring flavonoid compound derived from Caesalpinia sappan Linn..
Hematoxylin is a nuclear stain in histology and is also a potent Aβ42 fibrillogenesis inhibitor with an IC_{50} of 1.6 μM.

IC_{50} & Target

IC50: 1.6 μM (Aβ42 fibrillogenesis)[2]

In Vitro

When exposed to air, Hematoxylin is oxidized to reddish brown hematein. When oxidized to its hematein form and

	combined with a mordant, usually a metal salt, Hematoxylin stains tissue sections a deep blue to black color depending on the staining method. By itself, Hematoxylin is also amphoteric in its hematein form; it is red at acid pH and blue at alkaline pH. Differentiation following Hematoxylin staining removes nonspecific staining[1]. Hematoxylin treatment greatly alleviates Aβ42-induced cytotoxicity in SH-SY5Y cells. Hematoxylin is a potential agent against Aβ fibrillogenesis and cytotoxicity[2]. The Hematoxylin and Eosin (H&E) stained tissue section is the cornerstone of anatomical pathology diagnosis. The H&E procedure stains the nucleus and cytoplasm contrasting colors to readily differentiate cellular components[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Guidelines (Following is our recommended protocol. This protocol only provides a guideline, and should be modified according to your specific needs). The method of H&E staining[4]: 1. Place the glass slides that hold the paraffin sections in staining racks. Clear the paraffin from the samples in three changes of xylene for 2 min per change. 2. Hydrate the samples as follows. i. Transfer the slides through three changes of 100% ethanol for 2 min per change. ii. Transfer to 95% ethanol for 2 min. iii. Transfer to 70% ethanol for 2 min. iv. Rinse the slides in running tap water at room temperature for at least 2 min. 3. Stain the samples in Hematoxylin solution for 3 min. 4. Place the slides under running tap water at room temperature for at least 5 min. 5. Stain the samples in working eosin Y solution for 2 min. 6. Dehydrate the samples as follows. i. Dip the slides in 95% ethanol about 20 times. ii. Transfer to 95% ethanol for 2 min. iii. Transfer through two changes of 100% ethanol for 2 min per change. 7. Clear the samples in three changes of xylene for 2 min per change. 8. Place a drop of Permount over the tissue on each slide and add a coverslip. View the slides using a microscope. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- J Funct Foods. December 2021, 104784.
- Neurochem Int. 2021 Sep 20;150:105191.
- Exp Ther Med. July 1, 2021.
- Anticancer Res. 2017 Aug;37(8):4475-4481.

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REFERENCES

[1]. M Titford. The long history of hematoxylin. Biotech Histochem. Mar-Apr 2005;80(2):73-8.

[2]. Yilong Tu, et al. Hematoxylin Inhibits Amyloid β-Protein Fibrillation and Alleviates Amyloid-Induced Cytotoxicity. J Phys Chem B. 2016 Nov 10;120(44):11360-11368.

[3]. Ada T Feldman, et al. Tissue processing and hematoxylin and eosin staining. Methods Mol Biol. 2014;1180:31-43.

[4]. Robert D Cardiff, et al. Manual hematoxylin and eosin staining of mouse tissue sections. Cold Spring Harb Protoc. 2014 Jun 2;2014(6):655-8.

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

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