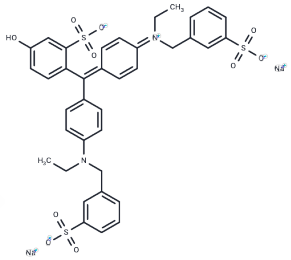
Data Sheet (Cat.No.T7772)

TargetMol

Fast Green FCF

Chemical Properties



CAS No. : 2353-45-9

Formula: C37H34N2Na2O10S3

Molecular Weight: 808.85

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	Fast Green FCF (FD&C Green No. 3), a safe biocompatible color additive, has been suggested to mitigate chronic pain.
Targets(IC50)	Others
In vitro	Instructions I. As a histone quantitative stain Fast Green FCF has the ability to specifically stain histones under alkaline pH conditions. 1. Solution preparation: Dissolve Fast Green FCF in an appropriate buffer (such as Tris-HCl buffer at alkaline pH), usually at a concentration of 0.01%-0.1%. 2. Experimental steps: 1) Use acid extraction to separate DNA and collect histones. 2). Mix the sample with Fast Green FCF solution and incubate for 5-15 minutes at room temperature or under appropriate conditions. 3) Use a photometer to measure the absorbance of the solution at 622-626 nm and quantify the histone concentration based on the standard curve. II. As a protein electrophoresis stain Fast Green FCF can be used for protein staining after SDS-PAGE or other electrophoresis techniques 1. Solution preparation: Prepare a 0.1% Fast Green FCF solution and dissolve it in a mixture of methanol, water, and acetic acid (e.g., 50% methanol, 10% acetic acid). Staining steps: 1) Place the gel after electrophoresis in Fast Green FCF solution and stain for 30-60 minutes with gentle shaking. 2) Destain with the same methanol/acetic acid mixture until the background is clear and the bands are clearly visible. 3) Use an imaging device to record the staining results. The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

In vivo	Pretreatment of Fast green FCF (100 mg/kg, i.p. daily for 7 days) alleviated depressive-like behavior in LPS-treated mice.?Fast green FCF suppressed the LPS-induced microglial and astrocyte activation in the hippocampus.?Fast green FCF decreased the mRNA and protein levels of Toll-like receptor 4 (TLR4) and Myeloid differentiation primary response 88 (Myd88) and suppressed the phosphorylation of nuclear factor-κB (NF-κB) in the hippocampus of LPS-treated mice.?Fast green FCF also downregulated hippocampal tumor necrosis factor (TNF)-α, interleukin (IL)-1β, and IL-6, but did not alter the level of the brain-derived neurotrophic factor (BDNF) in the hippocampus of LPS-treated mice.?The molecular docking simulation predicts that Fast green FCF may interact with TLR4 and interrupt the formation of the TLR4-MD2 complex[1].

Solubility Information

Solubility	DMSO: 20 mg/mL (24.73 mM),Sonication is recommended. H2O: 10 mg/mL (12.36 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.2363 mL	6.1816 mL	12.3632 mL
5 mM	0.2473 mL	1.2363 mL	2.4726 mL
10 mM	0.1236 mL	0.6182 mL	1.2363 mL
50 mM	0.0247 mL	0.1236 mL	0.2473 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

van Hooft JA. Fast Green FCF (Food Green 3) inhibits synaptic activity in rat hippocampal interneurons. Neurosci Lett. 2002 Feb 1;318(3):163-5.

Uehara K, et al. Activation of Liver mTORC1 Protects Against NASH via Dual Regulation of VLDL-TAG Secretion and De Novo Lipogenesis. Cell Mol Gastroenterol Hepatol. 2022;13(6):1625-1647.

Hall AE, et al. RNA splicing is a key mediator of tumour cell plasticity and a therapeutic vulnerability in colorectal cancer. Nat Commun. 2022 May 19;13(1):2791.