

Product Data Sheet

Product Name: 7-(2,4-Dinitrophenoxy)-4-methyl-2H-chromen-2-one

Cat. No.: GC45363

Chemical Properties

Cas. No. 314742-00-2

SMILES CC(C(C=C1)=C(O2)C=C1OC3=C([N+])([O-])=O)C=C([N+])([O-])=O)C=C3)=CC2=O

Formula C₁₆H₁₀N₂O₇

M.Wt 342.3

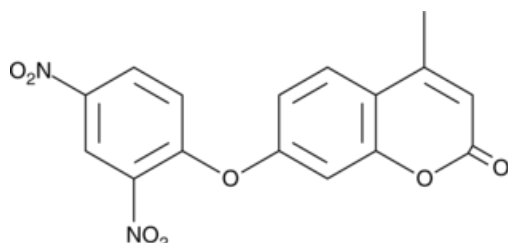
Solubility Chloroform: 30mg/mL, DMF: 30mg/mL, DMF:PBS (pH 7.2) (1:2): 0.30mg/mL, DMSO: 5mg/mL

Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

7-(2,4-Dinitrophenoxy)-4-methyl-2H-chromen-2-one is a turn-on fluorescent probe for the detection of hydrogen sulfide (H₂S).¹ 7-(2,4-Dinitrophenoxy)-4-methyl-2H-chromen-2-one undergoes thiolysis by hydrogen sulfide (HS⁻). It displays excitation/emission maxima of 323/445 nm, respectively, in DMSO and its fluorescence intensity increases in the presence of sulfur-containing molecules.^{2,3,1} 7-(2,4-Dinitrophenoxy)-4-methyl-2H-chromen-2-one is selective for sulfur-containing molecules, including cysteine, glutathione (GSH), homocysteine, and selenocysteine and is not cytotoxic up to a concentration of 150 µg/ml.^{1,2}

References

1. Chen, Y., Shang, X., Li, C., et al. The synthesis, crystal, hydrogen sulfide detection and cell

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

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- assessment of novel chemsensors based on coumarin derivatives. Sci. Rep. 8(1), 16159 (2018).
2. Zhang, B., Ge, C., Yao, J., et al. Selective selenol fluorescent probes: Design, synthesis, structural determinants, and biological applications. J. Am. Chem. Soc. 137(2), 757-769 (2015).
3. Yang, X.F., Su, Z., Liu, C., et al. A thiol-selective fluorogenic probe based on the cleavage of 4-methylumbelliferyl-2',4',6'-trinitrophenyl ether. Anal. Bioanal. Chem. 396(7), 2667-2674 (2010).

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