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Product Information

Resorufin sodium salt

Catalog Number **R3257**
Store at Room Temperature

CAS RN 34994-50-8
Synonym: 7-Hydroxy-3H-phenoxazin-3-one sodium salt

Product Description

Molecular Formula: $C_{12}H_6NNaO_3$
Molecular Weight: 235.17

pK_a:[1] 7.9
Extinction Coefficient (free base):[1]
E^{mM} (572 nm) = 73 (0.1 M Tris-HCl buffer, pH 8.0, containing 0.1 M NaCl)
Fluorescent Properties:
Excitation wavelength: 572 nm,[2] 550 nm (50 mM phosphate buffer, pH 7.7)[3]
Emission wavelength: 583 nm,[2] 585 nm (50 mM phosphate buffer, pH 7.7)[3]

Resorufin is a fluorescent indicator, exhibiting yellow fluorescence at pH 4.4 and weak orange fluorescence at pH 6.4.[4,5] Its spectra and those of the 7-alkoxy-resorufins (ethoxyresorufin, pentoxyresorufin, and benzyloxyresorufin) have been reported.[5]

The photophysics and photochemical behavior of the phenoxazin-3-one dyes, resazurin and resorufin, have been studied in aqueous solutions. The irradiation of resazurin in the presence of amines leads to deoxygenation of the N-oxide group, giving resorufin. This photoreaction is highly dependent on the amine structure and is efficient only in the presence of tertiary aliphatic amines.[6]

The activity of the *S. mansoni* excretory system was assessed by labeling with resorufin, which enabled study of the physiological function of the protonephridial system.[7] Resorufin has been utilized in quantifying NADH[8] and in assaying the metabolism of 7-ethoxyresorufin by microsomal subcellular fractions.[9]

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

This product is soluble in water (1 mg/ml), yielding a dark, red-purple solution.

Storage/Stability

Aqueous solutions of resorufin decompose with exposure to room lighting.[10] However, solutions exposed to fluorescent room lighting at 1.25 µM in methanol or in a mixture of 0.1 M HEPES buffer, pH 7.6, in 60% methanol did not change in their absorbance and fluorescence from their initial readings over a 2-hour interval, when the solutions stood on the laboratory bench in borosilicate glass tubes.[9]

References

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