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5 ALFRED STREET, OXFORD OX1 4HB, ENGLAND
Fluorescent Sulfhydryl Probes: 1,5- and 1,8-I-AEDANS (The Hudson - Weber Reagents)

Hudson and Weber have developed two fluorescent thiol reagents, N-iodoacetyl-N'-(5-sulfo-1-naphthyl)ethylenediamine (1,5-I-AEDANS) and N-iodoacetyl-N'-(8-sulfo-1-naphthyl)ethylenediamine (1,8-I-AEDANS), which react specifically with sulfhydryl groups in proteins, e.g., globin and papain. These compounds combine the reactivity of iodoacetamide toward sulfhydryl groups with the fluorescence properties of naphthalenesulfonic acids. Although both compounds are useful energy donors, they differ significantly in their spectral details.

1,5- and 1,8-I-AEDANS offer certain advantages over conventional fluorescent probes. The reagents are of high purity and are stable indefinitely when stored in the dark. Although the reagents are sensitive to degradation by light, the protein conjugates formed from them are photostable. The reagents are water soluble, thus permitting homogeneous reactions which can be easily controlled and reproduced.

The emission spectra of the reagents exhibit the following properties:

- Invariance over a wide pH range
- Sensitivity to the environment
- Distinctness from spectral properties of protein chromophores
- Suitability of lifetimes for the determination of a useful range of rotational relaxation times.

Fluorescence spectra, quantum yields and lifetimes for the chromophores in various solvents have been reported.

1,5-I-AEDANS has been used to study various properties of myosin. Fluorescence studies on the shape of the rhodopsin (a photoreceptor protein) molecule have been carried out employing 1,5-I-AEDANS as the labelling reagent.

These reagents show great promise for the elucidation of complex protein structures.

References:

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1g 20.00

85,985-0 N-Iodoacetyl-N'-(8-sulfo-1-naphthyl)ethylenediamine (1,8-I-AEDANS) 100mg 3.50
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