

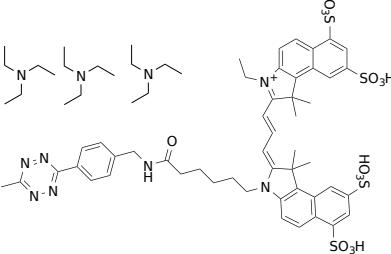
## Cy3.5 tetrazine

Catalog Number: 903  
Unit Size: 1 mg

### Product Details

Storage Conditions	Freeze (< -15 °C), Minimize light exposure
Expiration Date	12 months upon receiving

### Chemical Properties

Appearance	Solid deep purple
Molecular Weight	1377.80
Soluble In	DMSO
Chemical Structure	 The chemical structure shows a complex molecule consisting of a central tetrazine ring linked to a triethylenimine (TEI) group. The TEI group is substituted with three ethyl groups. One end of the molecule features a biotinylation-like structure with a sulfo-NHS ester (sulfo-NHS-ester) and a biotin-like core. The other end is a tetrazine ring substituted with a long hydrocarbon chain that ends in a carboxylic acid group (SO3H).

### Spectral Properties

Excitation Wavelength	579 nm
Emission Wavelength	591 nm

### Applications

Cy3.5 tetrazine is an excellent building block that can be readily used to label TCO-modified biological molecules for fluorescence imaging and other fluorescence-based biochemical analysis. It is widely used for labeling TCO-modified peptides, proteins and oligos etc. The inverse electron demand Diels–Alder (IEDDA) between 1,2,4,5-tetrazine and strained alkene (such as trans-cyclooctene, TCO) is a well-established bioorthogonal reaction. It is generally considered to be the fastest click reaction with first-order rate constants ranging up to 100,000 M<sup>-1</sup> S<sup>-1</sup>. Since the first report on IEDDA reaction, several kinds of strained alkenes/alkynes and tetrazine analogs have been synthesized, and these functional group pairs have been applied to life science research and nanomaterials. Due to the extremely rapid reaction rate of IEDDA under mild conditions such as room temperature, neutral pH, and in aqueous media, this reaction has been a highly useful ligation approach for a variety of bioconjugations. AAT Bioquest offers a group of tetrazine- and TCO-containing dyes for exploring various biological systems that can use this powerful click reaction.