

## Cy5.5 tetrazine

Catalog Number: 904  
Unit Size: 1 mg

## Product Details

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

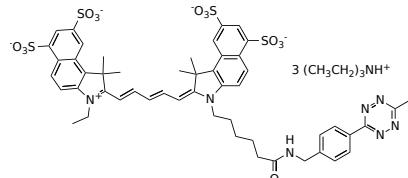
## Chemical Properties

Appearance Solid dark blue

Molecular Weight 1403.84

Soluble In DMSO

## Chemical Structure



## Spectral Properties

Excitation Wavelength 683 nm  
Emission Wavelength 703 nm

## Applications

Cy5.5 tetrazine is an excellent building block that can be readily used to label TCO-modified biological molecules for NIR 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 drug discovery, 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.