HIS Lite™ Cy3B Tris NTA-Ni Complex

Catalog Number: 12621
Unit Size: 100 ug

Product Details

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

Chemical Properties

Appearance	Solid
Molecular Weight	N/A
Soluble In	Water

Spectral Properties

Excitation Wavelength	560 nm
Emission Wavelength	571 nm

Applications

HIS Lite™ Cy3B Tris NTA-Ni Complex is a site-specific, non-covalent labeling reagent designed for the efficient detection of polyhistidine-tagged (His-tagged) proteins. The reagent consists of a Tris-nitrilotriacetic acid (Tris-NTA) chelator coordinated with Ni(II) and conjugated to the Cy3B fluorophore. This configuration enables high-affinity binding to His-tags under native conditions without requiring chemical modification of the target protein.

The Tris-NTA moiety offers enhanced binding stability compared to mono- or bis-NTA analogs due to its multivalent coordination with Ni(II), yielding dissociation constants in the nanomolar to picomolar range depending on the His-tag configuration. Binding is rapid, reversible, and specific, allowing for efficient labeling while preserving protein structure and function.

Cy3B is a sulfonated cyanine dye characterized by high quantum yield, minimal triplet-state formation, and excellent photostability. It exhibits excitation and emission maxima at approximately 560 nm and 571 nm, respectively. These optical properties make Cy3B well suited for high-sensitivity imaging applications, including single-molecule localization microscopy (SMLM), total internal reflection fluorescence (TIRF) microscopy, and fluorescence resonance energy transfer (FRET) assays.