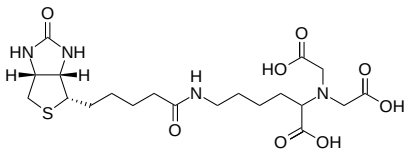
Biotin NTA

Catalog Number: 3008
Unit Size: 5 mg

Product Details

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

Chemical Properties

Appearance	Solid off- white
Molecular Weight	488.56
Soluble In	Water
Chemical Structure	

Spectral Properties

Excitation Wavelength	N/A
Emission Wavelength	N/A

Applications

Biotin NTA (BNTA) is a bifunctional molecule consisting of nitrilotriacetic acid conjugated to biotin. The NTA moiety chelates a Ni(II) ion at four of its six coordination sites, leaving two sites available for coordination with histidine residues. This interaction enables selective binding to polyhistidine-tagged proteins immobilized on nitrocellulose membranes. Detection limits of approximately 0.1 pmol have been reported under standard blotting conditions.

The biotin group allows detection through enzyme-linked streptavidin systems such as streptavidin–horseradish peroxidase conjugates, as well as fluorescent avidin derivatives. Binding of the NTA–Ni(II) complex to His-tagged proteins is reversible and can be disrupted at pH ~4.8, permitting removal of the probe and subsequent reanalysis of the blot with alternative detection reagents. This reagent is commonly used for detecting polyhistidine-containing biomolecules, including recombinant fusion proteins.