Scintillation
Nanotechnologies

SNT

nanoSPA™ for His-Tagged Proteins

Product Description

nanoSPA™ is a proprietary nanoparticle scintillator that presents several advantages over traditional liquid scintillation cocktails and solid scintillation materials. nanoSPA™ is small, has an intermediate density compared to polymer or inorganic crystal scintillators, and is readily dispersed in water compared to inorganic particles which settle and organic particles which can aggregate. The particles are functionalized at the surface with chelating groups and have already been loaded with Ni2+ for use with his-tagged proteins. His-tagged proteins can be attached to the nanoparticle surface by combining the nanoparticles with his-tagged protein in buffer and mixing gently on a shaker or similar device for 2 or more hours. Beads may or may not be rinsed to removed unattached protein as desired. nanoSPA-LA™ is further modified to reduce non-specific adsorption of ligands in some situations and can be stored and used in the same way as nanoSPA™.

Storage

nanoSPA™ for His-Tagged Proteins is shipped in 10 mM HEPES pH 7.4 at 10 mg/mL. Store nanoSPA™ in the refrigerator (4 °C) or at room temperature (approximately 25 °C).

Support

Please contact info@sntnano.com or call 1.833.768.6266, extension 1 for product support.

General Guidelines

- The function of nanoSPA™ for His-Tagged Proteins has not been tested after freezing or heating to temperatures above 37 °C.
- nanoSPA™ for His-Tagged Proteins is not compatible with many organic solvents including acetone, ethyl acetate, toluene, benzene, dimethylsulfoxide, and acetonitrile.
- nanoSPA™ for His-Tagged Proteins is a polymer-based scintillator and may yield lower total counts per unit of radioactivity than scintillation cocktail or inorganic crystal-based scintillators.
- nanoSPA™ for His-Tagged Proteins is shipped in 10 mM HEPES pH 7.4, but the water can be replaced by an aqueous buffer of choice. Collect the nanoSPA™ particles by centrifuging the nanoSPA™ slurry at approximately 4,000 × g, then disperse the particles in the chosen buffer.
- Mix the nanoSPA™ for His-Tagged Proteins slurry by shaking the vial immediately before use.
- nanoSPA™ for His-Tagged Proteins slurry can be added directly to aqueous samples. Thoroughly mix the nanoSPA™ for His-Tagged Proteins and sample by gently aspirating the sample with a pipette or swirling the vial if the sample contains protein or other component that may cause foam to form, or by shaking if no such agent is present.
- nanoSPA™ for His-Tagged Proteins can be used in scintillation vials or multi-well plates.
- nanoSPA™ for His-Tagged Proteins is typically used at a concentration of 0.5 to 5.0 mg/mL final per sample for most measurements. However, the concentration should be optimized depending on the conditions of the experiment.
- Light emission from nanoSPA™ for His-Tagged Proteins can be measured in existing liquid scintillation counter instrumentation.

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