3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

Monoclonal Anti-polyHistidine-Agarose
Clone HIS-1
produced in mouse, purified immunoglobulin

Catalog Number **A5713**

Product Description

Monoclonal Anti-polyHistidine (mouse IgG2a isotype) is derived from the HIS-1 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice. Polyhistidine-tagged fusion protein was used as the immunogen. The immunoglobulin fraction of antibody to polyHistidine is purified by High Performance Affinity Chromatography (Protein A column) from ascites fluid. Purified antibody is coupled to cyanogen bromide-activated agarose at 2.0-2.4 mg antibody per ml bed volume.

Monoclonal Anti-polyHistidine-Agarose may be used for immunoprecipitation and for immunoaffinity purification procedures of polyhistidine and polyhistidine tagged fusion proteins.

Monoclonal Anti-polyHistidine-Agarose recognizes native as well as denatured-reduced forms of synthetic polyhistidine or polyhistidine tagged fusion proteins. The product is reactive with fusion protein expressed by prokaryotic pET, pRSET and pTrc expression vectors.

Recombinant DNA technology enables the insertion of genes of interest to specific sequences or genes that can provide 'affinity handles' designed to bind specific matrices. The use of these tags enables the selective identification and purification of the protein of interest.[1-3] However, problems encountered when using many of the affinity tags include the incorrect folding of recombinant molecules that masks the ligand active site, and the requirement to cleave off the fusion protein and repurify the parent protein. An improved purification process has been developed by genetically engineering sequences of tails or tags away from the protein active site by insertion at the N- or C-terminus. It has been reported that the addition of a consecutive histidine amino acid residue tail creates a stable fusion product that does not appear to interfere with the bioactivity of the protein or with the biodistribution of the histidine tagged product.[1-3] Moreover, such protein can be purified by immobilized metal ion affinity chromatography (IMAC) making use of its high affinity for transition metal ion.[4] This purification system eliminates the harsh conditions required to elute proteins from ligand affinity columns. Many recombinant proteins have been engineered with six histidine tails to facilitate the detection, isolation and purification of these proteins.[1-4] Monoclonal antibody reacting specifically with polyhistidine may be useful in various immunotechniques that may assist in identifying the expression of a polyhistidine fusion protein in bacteria, bacterial lysates or cells and tissues transfected with polyhistidine fusion protein expressing vectors.

Reagent

Supplied as a 1:1 suspension in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use and extended storage, store at 2-8 °C. Do not freeze.

Product Profile

In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

1. Narayanan, S.R., *J. Chromatogr.*, **658**, 237 (1994).
2. Casey, J.L., et al., *J. Immunol. Meth.*, **179**, 105 (1995).

3. Uhlen, M., and Moks, T., *Meth. Enzymol.*, **185**, 129 (1990).
4. Skerra, A., et al., *Bio/Technology*, **9**, 273 (1991).

SC,KAA,PHC 09/08-1