SANTA CRUZ BIOTECHNOLOGY, INC.

His-Tag (HIS.H8): sc-57598

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Plasmid vectors for the expression of coding regions of eukaryotic genes in bacterial, insect and mammalian hosts are in common usage; such expression vectors are frequently used to encode hybrid fusion proteins consisting of a eukaryotic target protein and a specialized region designed to aid in the purification and visualization of the target protein. A system that has proven to be very successful relies on the insertion of a six histidine (His6) sequence in the N-terminus of the encoded protein, allowing for efficient coupling to Ni^{2+}-chelating resins and purification by single step affinity chromatography. This polyhistidine sequence can then be removed by specific cleavage at sites recognized by enzymes such as thrombin or enterokinase, permitting the separation of the target protein from the polyhistidine tag. Visualization of such fusion proteins can be achieved by utilizing antibodies generated against specific peptide sequences downstream from the multiple cloning site.

REFERENCES

1. Maniattis, T., et al. 1982. Molecular Cloning. Cold Spring Harbor, New York: Cold Spring Harbor Laboratory.
2. Smith, D.B. and Johnson, K.S. 1988. Single-step purification of polypeptides expressed in *Escherichia coli* as fusions with glutathione S-transferase. Gene 67: 31-40.
3. Hochuli, E. 1988. Large-scale chromatography of recombinant proteins. J. Chromatogr. 444: 293-302.
4. Thanos, D., et al. 1992. The high mobility group protein HMG I(Y) is required for NFκB-dependent virus induction of the human IFN-β gene. Cell 71: 777-789.
5. Kroll, D.J., et al. 1993. A multifunctional prokaryotic protein expression system: overproduction, affinity purification and selective detection. DNA Cell Biol. 12: 441-453.

SOURCE

His-Tag (HIS.H8) is a mouse monoclonal antibody raised against a 6x His-tagged polypeptide.

PRODUCT

Each vial contains 100 µg IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

His-Tag (HIS.H8) is recommended for detection of fusion proteins encoded by polyhistidine expression vectors by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

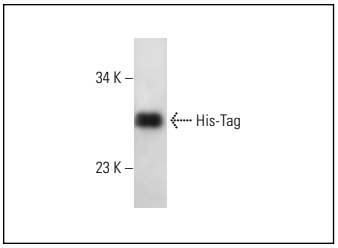
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



His-Tag (HIS.H8): sc-57598. Western blot analysis of mouse recombinant His-Tag-tagged p27.

SELECT PRODUCT CITATIONS

1. Wu, Y.C., et al. 2008. Modification of papillomavirus E2 proteins by the small ubiquitin-like modifier family members (SUMOs). Virology 378: 329-338.
2. Jul-Larsen, A., et al. 2010. Subcellular distribution of nuclear import-defective isoforms of the promyelocytic leukemia protein. BMC Mol. Biol. 11: 89.
3. Cannistraro, VJ., et al. 2011. Cellular stoichiometry of the chemotaxis proteins in *Bacillus subtilis*. J. Bacteriol. 193: 3220-3227.
4. Ramakrishna, S., et al. 2012. Hyaluronan binding motifs of USP17 and SDS3 exhibit anti-tumor activity. PLoS ONE 7: e37772.
5. Wu, X., et al. 2015. Antitumor effect of COOH-terminal polypeptide of human TERT is associated with the declined expression of hTERT and NFκB p65 in HeLa cells. Oncol. Rep. 34: 2909-2916.
6. Paonessa, F., et al. 2016. Regulation of neural gene transcription by optogenetic inhibition of the RE1-silencing transcription factor. Proc. Natl. Acad. Sci. USA 113: E91-E100.
7. Hwang, S., et al. 2018. Correcting glucose-6-phosphate dehydrogenase deficiency with a small-molecule activator. Nat. Commun. 9: 4045.
8. Wang, L., et al. 2019. Expression, purification, and *in vitro* mitochondrial interaction analysis of full-length and truncated human tumor suppresser p53. Biosci. Biotechnol. Biochem. 83: 1220-1226.
9. Carminati, E., et al. 2020. Mild inactivation of RE-1 silencing transcription factor (REST) reduces susceptibility to kainic acid-induced seizures. Front. Cell. Neurosci. 13: 580.
10. Céspedes, M.V., et al. 2020. Engineering secretory amyloids for remote and highly selective destruction of metastatic foci. Adv. Mater. 32: e1907348.