

Recombinant Human SPTA1, GST-tagged

Cat. No. SPTA1-1389H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant fusion protein: Glutathione-S-Transferase (GST) and a fragment of human α -spectrin (from Lysine 1601 to Leucine 1818) containing repeat 17 and the ubiquitination target lysine 27. The total molecular weight of the fusion protein is 52.4 kDa. It is produced in <i>Escherichia Coli</i> .
Species	Human
Source	E.coli
Description	Erythrocyte spectrin is the main component of the red cell membrane skeleton responsible for the shape and physical properties of red cells. SPTA1 is a member of the α -spectrin gene family. Spectrin is composed of 2 subunits a and b (280 and 246 kDa respectively). The human erythroid α -spectrin (2418 amino acids) consists of 22 repeating segments of about 106 amino acids in length. SPTA1 forms weaker tetramer interactions than non-erythrocytic α spectrin, which may increase the plasma membrane elasticity and deformability of red blood cells. This protein was demonstrated to be a specific substrate for ubiquitination in vitro and in vivo. The main ubiquitination site on human α -spectrin was identified in the lysine 27 of the repeating segment 17 by site directed mutagenesis. Cell-free experiments using radiolabeled, biotinylated or native ubiquitin and cellular lysates from rabbit reticulocytes, human erythrocytes or k562 cells, showed that only monoubiquitination occurs at this site. Mutations in the SPTA1 gene result in a variety of hereditary red blood cell disorders, such as elliptocytosis type 2, pyropoikilocytosis, and spherocytic hemolytic anemia.

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Physical Appearance	Sterile Filtered clear solution.
Formulation	The protein (1.7mg/ml) contains 50mM Tris buffer pH-8 and 10mM glutathione.
Application	Substrate for cell-free ubiquitination assays.
Purity	Greater than 90.0% as determined by both: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.
Stability	GST-alpha Spectrin although stable at 4°C for 1 week, should be stored desiccated below -18°C. Please prevent freeze-thaw cycles.

GENE INFORMATION

Gene Name	SPTA1 spectrin, alpha, erythrocytic 1 (elliptocytosis 2) [Homo sapiens]
Synonyms	SPTA1; spectrin, alpha, erythrocytic 1 (elliptocytosis 2); EL2; HPP; HS3; SPH3; SPTA
Gene ID	6708
mRNA Refseq	NM_003126
Protein Refseq	NP_003117
MIM	182860
UniProt ID	P02549
Chromosome Location	1q21

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Pathway Axon guidance

Function actin filament binding; calcium ion binding; protein binding; structural constituent of cytoskeleton

PDB rendering based on 1owa.



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