



RayBiotech, Inc.

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Certificate of Analysis and Data Sheet Recombinant Spectrin-alpha

Catalog No.
228-11452

Source
Escherichia Coli.

Synonyms

Spectrin alpha chain erythrocyte, Erythroid alpha-spectrin, SPTA1, SPTA, EL2, HPP, HS3, SPH3.

Introduction

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 alpha-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 alpha 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.

Description

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.

Physical Appearance

Sterile Filtered clear solution.

Formulation

The protein (1.7mg/ml) contains 50mM Tris buffer pH-8 and 10mM glutathione.

Purity

Greater than 90.0% as determined by both

- (a) Analysis by RP-HPLC.
- (b) Analysis by SDS-PAGE.

**The products are furnished for LABORATORY RESEARCH USE ONLY.
Not for diagnostic or therapeutic use.**



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Application

Substrate for cell-free ubiquitination assays.

Stability

GST-alpha Spectrin although stable at 4°C for 1 week, should be stored desiccated below -18°C.

Please prevent freeze-thaw cycles.

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