

14-3-3 sigma Protein, Mouse, Recombinant

General Information

Synonyms:	Mme1;stratifin;Ywhas;Er;14-3-3 σ
Protein Construction:	A DNA sequence encoding the mouse SFN (NP_061224.2) (Met 1-Ser 248) was expressed and purified, with additional two amino acids (Gly & Pro) at the N-terminu. Predicted N terminal: Gly
Species:	Mouse
Expression Host:	E. coli
Accession:	O70456
Molecular Weight:	27.7 kDa (predicted); 32 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μ m filter, containing 50 mM Tris, 150 mM NaCl, pH 8.0. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:	A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.
Stability & Storage:	It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots. <small>Actual storage temperature shall be subject to the COA.</small>
Shipping:	In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

14-3-3 protein sigma (YWHAS), also known as stratifin (SFN) and epithelial cell marker protein 1, is a member of the 14-3-3 proteins which are a family of conserved regulatory molecules expressed in all eukaryotic cells. The name 14-3-3 refers to the particular elution and migration pattern of these proteins on DEAE-cellulose chromatography and starch-gel electrophoresis. The 14-3-3 proteins eluted in the 14th fraction of bovine brain

homogenate and were found on positions 3.3 of subsequent electrophoresis. There are seven genes that encode 14-3-3s in most mammals. 14-3-3 proteins have been identified as adapter proteins implicated in the regulation of a large spectrum of both general and specialized signaling pathways. More than 1 signaling proteins have been reported as 14-3-3 ligands including kinases, phosphatases, and transmembrane receptors, and the binding generally results in the modulation of the activity of the binding partner. YWHAE exists as a homodimer and present mainly in tissues enriched in stratified squamous keratinising epithelium. YWHAS has been reported to interact with KRT17 and GAB2, and may regulate protein synthesis and epithelial cell growth by stimulating Akt/mTOR pathway upon binding to KRT17. Additionally, YWHAS (SFN) may also act as a p53-regulated inhibitor of G2/M progression.

Reference

Zakut-Houri R., et al., (1985), Human p53 cellular tumor antigen: cDNA sequence and expression in COS cells. EMBO J. 4:1251-1255.

Lamb P., et al., (1986), Characterization of the human p53 gene. Mol. Cell. Biol. 6:1379-1385.

Harlow E., et al., (1985), Molecular cloning and in vitro expression of a cDNA clone for human cellular tumor antigen p53. Mol. Cell. Biol. 5:1601-1610.

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