

14-3-3 beta Protein, Human, Recombinant

General Information

Synonyms:	14-3-3 β ;YWHAA;tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, beta;KCIP-1;HEL-5-1;tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, β ;HS1;GW128
Protein Construction:	A DNA sequence encoding the human YWHAB (NP_003395.1) (Met 1-Asn 246) was expressed, with two additional amino acids (Gly & Pro) at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	P31946-1
Molecular Weight:	28 kDa (predicted); 28 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:	$\geq 90\%$ as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM Tris, 150 mM NaCl, 0.1 mM DTT, 10% glycerol, pH 7.5. 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 beta / YWHAB is a member of the 14-3-3 proteins family. 14-3-3 proteins are a group of highly conserved proteins that are involved in many vital cellular processes such as metabolism, protein trafficking, signal transduction, apoptosis and cell cycle regulation. 14-3-3 proteins are mainly localized in the synapses and

neuronal cytoplasm, and seven isoforms have been identified in mammals. This family of proteins was initially identified as adaptor proteins which bind to phosphoserine-containing motifs. Binding motifs and potential functions of 14-3-3 proteins are now recognized to have a wide range of functional relevance. 14-3-3 beta / YWHAB is found in both plants and mammals, and this protein is 100% identical to the mouse ortholog. 14-3-3 beta / YWHAB interacts with CDC25 phosphatases, RAF1 and IRS1 proteins, suggesting its role in diverse biochemical activities related to signal transduction, such as cell division and regulation of insulin sensitivity. 14-3-3 beta / YWHAB has also been implicated in the pathogenesis of small cell lung cancer. 14-3-3 beta / YWHAB binding negatively regulates RSK1 activity to maintain signal specificity and that association/dissociation of the 14-3-3beta-RSK1 complex is likely to be important for mitogen-mediated RSK1 activation.

Reference

Tommerup N, et al. (1996) Assignment of the human genes encoding 14,3-3 Eta (YWHAH) to 22q12, 14-3-3 zeta (YWHAZ) to 2p25.1-p25.2, and 14-3-3 beta (YWHAB) to 20q13.1 by in situ hybridization. *Genomics*. 33(1): 149-50.

Jin YH, et al. (2008) Sirt2 interacts with 14-3-3 beta/gamma and down-regulates the activity of p53. *Biochem Biophys Res Commun*. 368(3): 690-5.

Sekimoto T, et al. (2004) 14-3-3 suppresses the nuclear localization of threonine 157-phosphorylated p27(Kip1). *EMBO J*. 23(9): 1934-42.

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