

# Human 14-3-3 beta / YWHAB Protein



Sino Biological  
Biological Solution Specialist

Catalog Number: 10843-HNCE

## General Information

### Gene Name Synonym:

GW128; HEL-S-1; HS1; KCIP-1; YWHAA

### 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.

**Source:** Human

**Expression Host:** E. coli

## QC Testing

**Purity:** > 93 % as determined by SDS-PAGE

### Endotoxin:

Please contact us for more information.

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Met

### Molecular Mass:

The recombinant human YWHAB consists of 248 amino acids and has a predicted molecular mass of 28 kDa as estimated in SDS-PAGE under reducing conditions.

### Formulation:

Lyophilized from sterile 20mM Tris, 150mM NaCl, 0.1mM DTT, 10% glycerol, pH 7.5

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Storage:

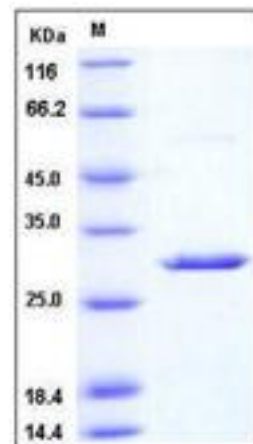
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

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.

## References

1. Tommerup N, *et al.* (1996) Assignment of the human genes encoding 14,3-3 Eta (YWHAB) 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.
2. 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.
3. 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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