

14-3-3 epsilon Protein, Mouse, Recombinant (GST)

General Information

Synonyms:	AU019196;tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, epsilon;14-3-3 ε;tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, ε
Protein Construction:	A DNA sequence encoding the mouse YWHAE (P62259) (Met 1-Gln 255) was fused with the GST tag at the N-terminus. Predicted N terminal: Met
Species:	Mouse
Expression Host:	E. coli
Accession:	P62259
Molecular Weight:	56.1 kDa (predicted); 48 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:	> 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 50 mM Tris, 2 mM GSH, 1 mM DTT, pH 8.2. 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.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

YWHAE, also known as 14-3-3 epsilon, mediate signal transduction by binding to phosphoserine-containing proteins. 14-3-3 epsilon / YWHAE 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 epsilon / YWHAE is found in both plants and mammals, and this protein is 100% identical to the mouse ortholog. YWHAE 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. It has also been implicated in the pathogenesis of small cell lung cancer. 14-3-3 epsilon / YWHAE is implicated in the regulation of a large spectrum of both general and specialized signaling pathways. 14-3-3 epsilon / YWHAE Binds to a large number of partners, usually by recognition of a phosphoserine or phosphothreonine motif. This Binding generally results in the modulation of the activity of the binding partner.

Reference

- Ikeda M, et al. (2008) Identification of YWHAE, a gene encoding 14-3-3epsilon, as a possible susceptibility gene for schizophrenia. *Hum Mol Genet.* 17(20): 3212-22.
- Mignon-Ravix C, et al. (2010) Deletion of YWHAE in a patient with periventricular heterotopias and pronounced corpus callosum hypoplasia. *J Med Genet.* 47(2): 132-6.
- Nagamani SC, et al. (2009) Microdeletions including YWHAE in the Miller-Dieker syndrome region on chromosome 17p13.3 result in facial dysmorphisms, growth restriction, and cognitive impairment. *J Med Genet.* 46(12): 825-33.

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