

## SYAP1 Protein, Human, Recombinant (His)

### General Information

Synonyms:	PRO3113;synapse associated protein 1
Protein Construction:	A DNA sequence encoding the Human SYAP1 (NP_116185.2) (Met1-Asn352) was expressed with a polyhistidine tag at the C-terminus. Predicted N terminal: Met 1
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	NP_116185.2
Molecular Weight:	41.39 kDa (predicted); 56.65 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:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM PB, 300 mM NaCl, 10% glycerol, 1 mM TCEP, pH 7.0. 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.

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

Synapse-associated protein 1 (SYAP1), also known as PRO3113 and BSTA, belongs to the synapse-associated BSD domain family, featuring three α-helices and two conserved tryptophan and phenylalanine residues located at the C-terminus. Expressed near neuronal Golgi and synaptic regions of cerebellar Purkinje cells, SYAP1 has been linked to intact sensorimotor control and general vesicular trafficking in neurons. SYAP1-deficient mice display impaired locomotor activity. In cultured adipocytes, SYAP1 facilitates mTORC2-mediated phosphorylation of

protein kinase Akt1 and adipocyte differentiation. Chromosomal band Xp22.2 houses the human SYAP1 gene, a region associated with developmental delay and autism spectrum disorder. SYAP 1 may be a target for future cancer therapies as it was induced by tamoxifen in breast cancer cells sensitive to tamoxifen growth inhibition.

### Reference

Youhong Fan, et al. A novel BSD domain-containing transcription factor controls vegetative growth, leaf senescence, and fruit quality in tomato, *Journal of Experimental Botany*, 2020.

Schmitt, D., et al. Initial characterization of a Syap1 knock-out mouse and distribution of Syap1 in mouse brain and cultured motoneurons. *Histochem Cell Biol*, 2016.

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Tel:781-999-4286 E\_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481