

## Alpha-synuclein Protein, Rat, Recombinant (GST)

## General Information

Synonyms:	Snca;Alpha-synuclein
Protein Construction:	1-140 aa
Species:	Rat
Expression Host:	E. coli
Accession:	P37377
Molecular Weight:	41.5 kDa (predicted)
AA Sequence:	MDVFMKGLSKAKEGVVAAAETKQGVAAAGKTKEGVLYVGSKTKEGVVHGVTVAEKTKEQVTNVGGAVV TGVTAQAQKTVEGAGNIAAATGFVKKDQMGKGEEGYPQEGILEDMPVDPSSSEAYEMPSEEGYQDYEPEA

## QC Testing

Biological Activity:	Activity has not been tested. 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:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Tris-based buffer, 50% glycerol

## 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:	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.
Shipping:	In general, Lyophilized powders are shipping with blue ice. Solutions are shipping with dry ice.

## Protein Background

Neuronal protein that plays several roles in synaptic activity such as regulation of synaptic vesicle trafficking and subsequent neurotransmitter release. Participates as a monomer in synaptic vesicle exocytosis by enhancing vesicle priming, fusion and dilation of exocytotic fusion pores. Mechanistically, acts by increasing local Ca(2+) release from microdomains which is essential for the enhancement of ATP-induced exocytosis. Acts also as a molecular chaperone in its multimeric membrane-bound state, assisting in the folding of synaptic fusion components called SNAREs (Soluble NSF Attachment Protein REceptors) at presynaptic plasma membrane in

conjunction with cysteine string protein- $\alpha$ /DNAJC5. This chaperone activity is important to sustain normal SNARE-complex assembly during aging. Plays also a role in the regulation of the dopamine neurotransmission by associating with the dopamine transporter (DAT1) and thereby modulating its activity.

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