



[30404828](http://www.uniprot.org/citations/30404828)). Participates as a monomer in synaptic vesicle exocytosis by enhancing vesicle priming, fusion and dilation of exocytotic fusion pores (PubMed:[28288128](http://www.uniprot.org/citations/28288128), PubMed:[30404828](http://www.uniprot.org/citations/30404828)). Mechanistically, acts by increasing local Ca(2+) release from microdomains which is essential for the enhancement of ATP-induced exocytosis (PubMed:[30404828](http://www.uniprot.org/citations/30404828)). 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 (PubMed:[20798282](http://www.uniprot.org/citations/20798282)). This chaperone activity is important to sustain normal SNARE-complex assembly during aging (PubMed:[20798282](http://www.uniprot.org/citations/20798282)). Also plays a role in the regulation of the dopamine neurotransmission by associating with the dopamine transporter (DAT1) and thereby modulating its activity (PubMed:[26442590](http://www.uniprot.org/citations/26442590)).

#### Cellular Location

Cytoplasm. Membrane. Nucleus. Synapse Secreted. Cell projection, axon {ECO:0000250|UniProtKB:O55042}. Note=Membrane-bound in dopaminergic neurons (PubMed:15282274). Expressed and colocalized with SEPTIN4 in dopaminergic axon terminals, especially at the varicosities (By similarity). {ECO:0000250|UniProtKB:O55042, ECO:0000269|PubMed:15282274}

#### Tissue Location

Highly expressed in presynaptic terminals in the central nervous system. Expressed principally in brain

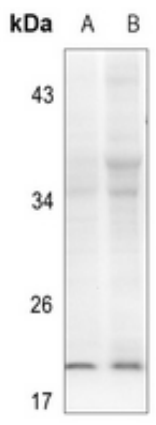
#### Anti-Alpha-synuclein (pY133) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

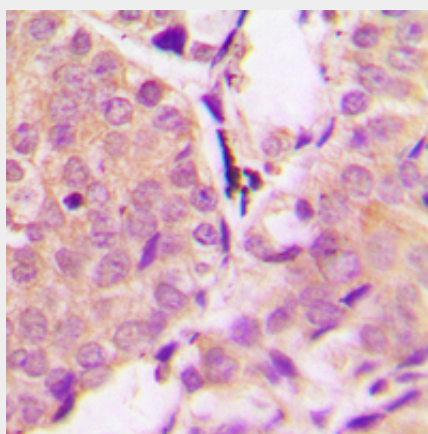
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### Anti-Alpha-synuclein (pY133) Antibody - Images





Western blot analysis of Alpha-synuclein (pY133) expression in mouse brain (A), rat brain (B) whole cell lysates.



Immunohistochemical analysis of Alpha-synuclein (pY133) staining in human prostate cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

#### **Anti-Alpha-synuclein (pY133) Antibody - Background**

KLH-conjugated synthetic peptide encompassing a sequence within the C-term region of human Alpha-synuclein (pY133). The exact sequence is proprietary.