



3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

Product Information

g-Synuclein, human recombinant, expressed in *E.coli*

Catalog Number **S3071**

Storage Temperature -20 °C

Synonyms: BCSG1, Persyn, PRSN

Product Description

Synucleins (α , β , and γ -synuclein, and synoretin) are a family of small, highly conserved proteins expressed primarily in neurons and in certain tumors. γ -Synuclein, originally known as a breast cancer gene product, BCSG1, is a 13.3 kDa (127 amino acids) protein. It shares 60% similarity with α -synuclein at the amino acid sequence level.^{1,2}

γ -Synuclein plays a role in neurofilament network integrity. It increases the susceptibility of neurofilament-H to calcium-dependent proteases³, and localizes to centrosomes in several types of human interphase cells and in retina pigment epithelium.⁴ In addition, γ -synuclein functions in modulating the keratin network in skin⁵, and activates the MAPK and ELK-1 signal transduction pathway.⁴

It is not found in Lewy bodies, but the protein is associated with hippocampal axon pathology in Parkinson's disease and dementia with Lewy bodies. A change in the expression of γ -synuclein has also been specifically observed in the retina of patients with Alzheimer's disease.²

γ -Synuclein was found in the epidermis and metastatic breast cancer tissue. There is a correlation between its expression in breast ductal carcinomas and the staging of the cancer, suggesting that it may be a potential marker for both late stage breast and ovarian cancer.⁶

Reagent

The product is supplied as a lyophilized solid.

Purity: $\geq 90\%$ (SDS-PAGE)

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

The product is shipped on dry ice and stored at -20 °C. Reconstitute the product in 0.5 ml water (~1 mg/ml). Store the reconstituted solution in working aliquots at -20 °C. The reconstituted product is stable for at least 1 year.

References:

1. Lavedan, C., The synuclein family. *Genome Res.*, 8, 871-880 (1998).
2. George J.M., The synucleins. *Genome Biol.*, 3, 1-8 (2002).
3. Buchman, V., et al., Persyn, a member of the synuclein family, influences neurofilament network integrity. *Nat. Neurosci.*, 1, 101-103 (1998).
4. Surguchov, A, et al., γ -Synuclein: subcellular localization in neuronal and non-neuronal cells and effect on signal transduction. *Cell Motil. Cytoskeleton.*, 49, 218-228 (2001).
5. Ninkina, N.N., et al., Developmentally regulated expression of persyn, a member of the synuclein family, in skin. *Exp. Cell Res.*, 246, 308-311 (1999).
6. Pan, Z.Z., et al., γ -Synuclein promotes cancer cell survival and inhibits stress- and chemotherapy drug-induced apoptosis by modulating MAPK pathways. *Biol. Chem.*, 277, 35050-35060 (2002).

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