

Lot # XXXXX

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## MATERIAL DATA SHEET

### $\alpha$ -Synuclein, human recombinant

Cat. # SP-485

$\alpha$ -Synuclein is member of a family of small soluble proteins that include also  $\beta$ -, and  $\gamma$ -Synuclein. It is predominantly expressed in neurons of the central nervous system in the presynaptic region of nerve terminals, where cycles between free partially unfolded and helical membrane-bound forms.

$\alpha$ -Synuclein can self-aggregate *in vivo* and *in vitro*, forming various oligomeric species and fibrillar and amorphous aggregates. The fibrils and amyloid forms of  $\alpha$ -Synuclein are major components of Lewy bodies and Lewy neurites and have been linked to the pathogenesis of Parkinson's disease, Parkinson's disease dementia, and dementia with Lewy bodies.  $\alpha$ -Synuclein aggregates can be also found associated with amyloid plaques in Alzheimer's disease. This untagged recombinant protein may be used as a substrate for various E3 ligases.

#### Product Information

<b>Quantity:</b>	500 $\mu$ g
<b>Stock:</b>	X mg/ml (X $\mu$ M) in 50 mM HEPES pH 7.5, 100 mM NaCl, 1 mM DTT
<b>MW:</b>	14 kDa
<b>Purity:</b>	> 95 % by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie Blue stain.

#### Use & Storage

<b>Use:</b>	Recombinant Human $\alpha$ -Synuclein is ideal for use as a control substrate for <i>in vitro</i> Ubiquitin conjugation using select Ubiquitin E3 ligases such as CHIP/Stub1. Reaction conditions will need to be optimized for each specific application. We recommend an initial $\alpha$ -Synuclein concentration of 0.5-2.5 $\mu$ M.
<b>Storage:</b>	Store at -80°C. Avoid multiple freeze/thaw cycles.

#### Literature

<b>References:</b>	Breydo L, Wu J.W., Uversky V.N. (2012) <u>Biochim Biophys Acta</u> . <b>1822</b> : 261 Chen R.H., <i>et al.</i> (2013) <u>J Biol Chem</u> . <b>288</b> : 7438 Li X., <i>et al.</i> (2008) <u>Acta Biochim Biophys Sin (Shanghai)</u> <b>40</b> : 406 Surguchov A. (2008) <u>Int Rev Cell Mol Biol</u> <b>270</b> : 225 Xia Q., <i>et al.</i> (2008) <u>Front Biosci</u> . <b>13</b> : 3850
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Rev: 12/20/2016

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