INVIVO
BioTech Services GmbH
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Anti-human a-Synuclein mAb 5G4

Description:

α-Synuclein is a highly abundant neuronal protein (0.5–1% of total brain protein), concentrated at presynaptic terminals. It supports membrane stability, presynaptic signaling, and vesicular trafficking. In its normal state, α-synuclein is a small, soluble protein that associates with phospholipid membranes, adopting an amphipathic α-helical structure upon lipid binding. Under pathological conditions, however, it is highly increased and adopts a neurotoxic β-sheet conformation, driving aggregation, fibril formation, and deposition in Lewy bodies, which are a hallmark of Parkinson's disease and other synucleinopathies. These misfolded aggregates are thought to disrupt cellular processes and contribute to neuronal dysfunction and death.

The clone 5G4 is a Monoclonal Mouse antibody against Human human a-Synuclein pathological related forms only, SNCA (Uniprot: H6UYS7).

The antibody is produced exclusively from hybridoma and purified through one-step purification with Protein-A affinity chromatography.

Product-ID:	**INV4000048**
Clone:	5G4
Immunogen:	Animals were immunized with amino acid sequence 44-57 TKEGVVHGVATVAE
Host:	Mouse
Clonality:	Monoclonal
Isotype:	IgG1k
Formulation:	Clear Liquid, PBS, pH 7.4
Concentration:	> 1.0 mg/ml
Purity:	> 95% by SDS-PAGE
Sizes available:	0.1 mg and 1.0 mg
Storage:	at - 20 °C (repeated thawing and freezing should be avoided)
Tested application(s):	ELISA, Western Blot, Immunhistochemistry

The product is for research use only and not for use in diagnostic or therapeutic procedures.

Literature:

[1] - Tofaris GK. Initiation and progression of α-synuclein pathology in Parkinson's disease. Cell Mol Life Sci. 2022 Mar 26;79(4):210. doi: 10.1007/s00018-022-04240-2. PMID: 35347432; PMCID: PMC8960654.

[2] - Atik A, Stewart T, Zhang J. Alpha-Synuclein as a Biomarker for Parkinson's Disease. Brain Pathol. 2016 May;26(3):410-8. doi: 10.1111/bpa.12370. PMID: 26940058; PMCID: PMC6245641.

[3] - Burré J, Sharma M, Südhof TC. Cell Biology and Pathophysiology of α-Synuclein. Cold Spring Harb Perspect Med. 2018 Mar 1;8(3):a024091. doi: 10.1101/cshperspect.a024091. PMID: 28108534; PMCID: PMC5519445.

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e. Martinez-Valbuena I, Visanji NP, Kim A, Lau HHC, So RWL, Alshimemeri S, Gao A, Seidman MA, Luquin MR, Watts JC, Lang AE, Kovacs GG. Alpha-synuclein seeding shows a wide heterogeneity in multiple system atrophy. Transl Neurodegener. 2022 Feb 7;11(1):7. doi: 10.1186/s40035-022-00283-4. PMID: 35125105; PMCID: PMC8819887.

f. Unterberger U, Lachmann I, Voigtländer T, Pirker W, Berghoff AS, Flach K, Wagner U, Geneste A, Perret-Liaudet A, Kovacs GG. Detection of disease-associated α-synuclein in the cerebrospinal fluid: a feasibility study. Clin Neuropathol. 2014 Sep-Oct;33(5):329-34. doi: 10.5414/np300796. PMID: 25131945; PMCID: PMC4151342.

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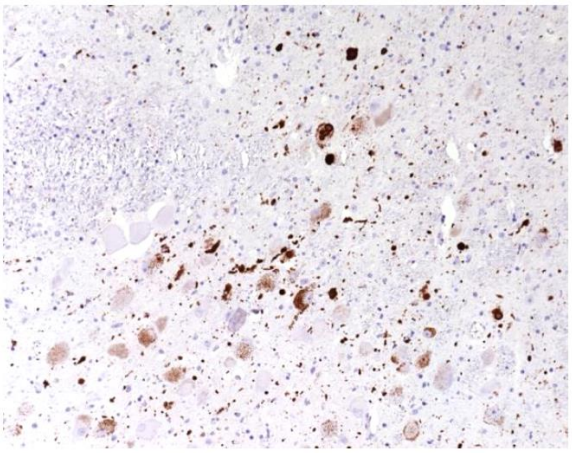
InVivo BioTech Services GmbH is certified to ISO 9001 and ISO 13485.

Anti-human a-Synuclein mAb 5G4 — Supplementary Data

Figure 1

Detection of α-Synuclein aggregates using monoclonal antibody 5G4 in Loc. Coeruleus of Parkinson disease brain tissue.
Analyses were kindly performed by Dr. Gabor Kovacs, Medical University Vienna, Institute of Neurology, Austria.