ARG10689
anti-alpha Synuclein antibody

Package: 50 µl
Store at: -20°C

Summary

Product Description	Chicken Polyclonal antibody recognizes alpha Synuclein
Tested Reactivity	Hu, Ms, Rat, Cow, Hrs, Pig
Predict Reactivity	Chk
Tested Application	ICC/IF, IHC-Fr, WB
Host	Chicken
Clonality	Polyclonal
Isotype	IgY
Target Name	alpha Synuclein
Species	Human
Immunogen	Full length Human alpha Synuclein protein.
Epitope	aa. 61-95
Conjugation	Un-conjugated
Alternate Names	Non-A4 component of amyloid precursor; Alpha-synuclein; PARK4; PARK1; PD1; NACP; Non-A beta component of AD amyloid

Application Instructions

Application table

Application	Dilution
ICC/IF	1:1000
IHC-Fr	1:1000
WB	1:2000

Application Note: * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Properties

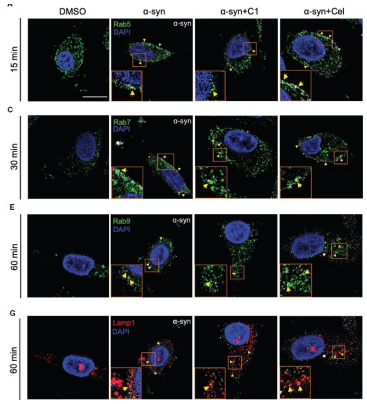
Form	Liquid
Purification	Affinity purification.
Buffer	PBS and 50% Glycerol.
Stabilizer	50% Glycerol
Concentration	1 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.

Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Gene Symbol	SNCA
Gene Full Name	synuclein, alpha (non A4 component of amyloid precursor)
Background	Alpha-synuclein is a member of the synuclein family, which also includes beta- and gamma-synuclein. Synucleins are abundantly expressed in the brain and alpha- and beta-synuclein inhibit phospholipase D2 selectively. SNCA may serve to integrate presynaptic signaling and membrane trafficking. Defects in SNCA have been implicated in the pathogenesis of Parkinson disease. SNCA peptides are a major component of amyloid plaques in the brains of patients with Alzheimer's disease. Four alternatively spliced transcripts encoding two different isoforms have been identified for this gene. [provided by RefSeq, Mar 2009]
Function	May be involved in the regulation of dopamine release and transport. Induces fibrillization of microtubule-associated protein tau. Reduces neuronal responsiveness to various apoptotic stimuli, leading to a decreased caspase-3 activation. [UniProt]
Calculated Mw	14 kDa
PTM	Phosphorylated, predominantly on serine residues. Phosphorylation by CK1 appears to occur on residues distinct from the residue phosphorylated by other kinases. Phosphorylation of Ser-129 is selective and extensive in synucleinopathy lesions. In vitro, phosphorylation at Ser-129 promoted insoluble fibril formation. Phosphorylated on Tyr-125 by a PTK2B-dependent pathway upon osmotic stress. Hallmark lesions of neurodegenerative synucleinopathies contain alpha-synuclein that is modified by nitration of tyrosine residues and possibly by dityrosine cross-linking to generated stable oligomers. Ubiquitinated. The predominant conjugate is the diubiquitinated form (By similarity). Acetylation at Met-1 seems to be important for proper folding and native oligomeric structure.

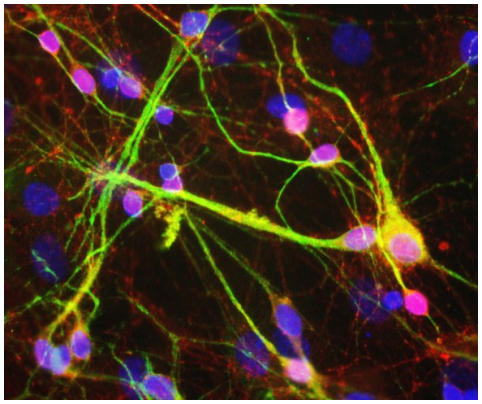
Images



ARG10689 anti-alpha Synuclein antibody ICC-IF image

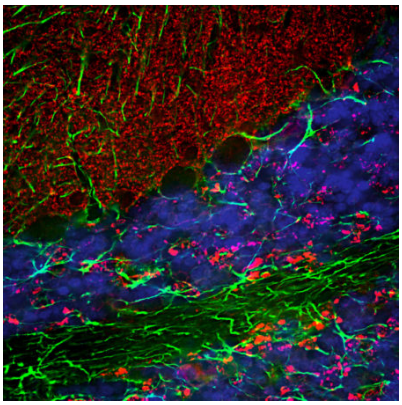
Immunofluorescence: MoDCs stained with ARG10689 anti-alpha Synuclein antibody.

From Ng L et al. Front Immunol- (2022), doi: 10.3389/fimmu.2022.833515, Fig. 4.



ARG10689 anti-alpha Synuclein antibody ICC/IF image

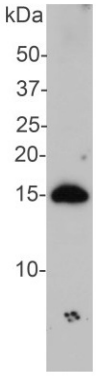
Immunocytochemistry: Mixed Rat neuron-glial cultures stained with ARG10689 anti-alpha Synuclein antibody (red) and co-stained with monoclonal antibody to MAP2 (green). ARG10689 anti-alpha Synuclein antibody stains vesicular structures the perikarya and processes of the neurons in this image. Note that some of the neuronal perikarya contain much more alpha-synuclein than others. The blue channel shows the localization of DNA.



ARG10689 anti-alpha Synuclein antibody IHC-Fr image

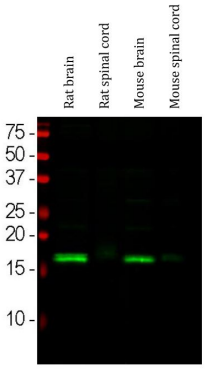
Immunohistochemistry: Frozen section of Rat cerebellum stained with ARG10689 anti-alpha Synuclein antibody (red) at 1:3000 dilution and costained with ARG52312 anti-GFAP antibody (green) at 1:5000 dilution. DAPI (blue) for nuclear staining. (Sample preparation: Following transcardial perfusion of Rat with 4% paraformaldehyde, brain was post fixed for 24 hours, cut to 45 µM, and free-floating sections were stained with above antibodies.)

The alpha synuclein protein is concentrated in presynaptic regions in the granular and molecular layers, while GFAP antibody stains the network of Bergmann and astroglial cells.



ARG10689 anti-alpha Synuclein antibody WB image

Western blot: Crude extract of Rat brain stained with ARG10689 anti-alpha Synuclein antibody.



ARG10689 anti-alpha Synuclein antibody WB image

Western blot: Rat brain, Rat spinal cord, Mouse brain and Mouse spinal cord lysates stained with ARG10689 anti-alpha Synuclein antibody (green) at 1:2000 dilution.