GABA rabbit pAb – IS1006

Ref: IS1006-sp

The anti-GABA antibody IS1006 rabbit polyclonal antibody displays high affinity and specificity and allows direct detection of GABA in whole mounts, cell culture and tissue sections when samples are prepared using the STAINperfect immunostaining kit A.

Clonality	Polyclonal antibody
Host	Rabbit
Reactivity	Reacts with all species
Tested samples	Whole mounts, cell culture, tissue sections
Staining procedure	STAINperfect immunostaining kit A
Format	50µL (approx. 40 tissue sections)
References	Citations in literature

INFORMATIONS

Product overview

Product name	GABA antibody – Rabbit Polyclonal antibody
Synonyms	Anti-Gamma-Aminobutyric acid antibody
Immunogen	Conjugated GABA
Specificity	When tested in competitive ELISA, the anti-conjugated GABA antibody did not show any significant cross reactivity with Gamma-Aminobutyric acid analogs, including Beta-Alanine and D-Alanine
Volume	50µL

Storage

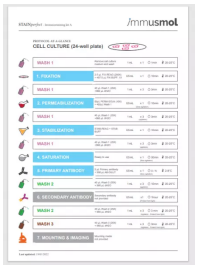
Form	Liquid
Purity	Purified anti-serum
Storage	Store at +4°C for short term (1-2 months). Aliquot and store at -20°C for long term. Avoid repeated freeze / thaw cycles
Material safety datasheet	Download MSDS

PROTOCOLS

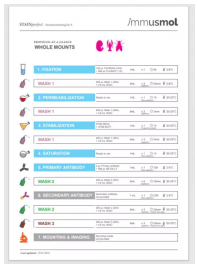
IF – Cell cultures, Whole mounts, Tissue sections	Dilute antibody with the antibody diluent provided in the STAINperfect immunostaining kit A. Use at 1/250 -1/1000 dilution. Follow the STAINperfect protocol suited to your sample
Comments	Optimal working dilutions must be determined by the end-user
Restrictions	For research use only
Full protocol	Download STAINperfect protocol for GABA staining

Protocols-at-a-glance

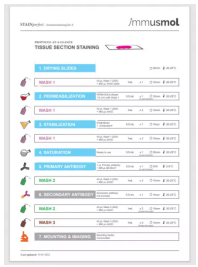
Complete Instructions for Use



Protocol-at-a-glance for cell cultures



Protocol-at-a-glance for whole mounts



Protocol-at-a-glance for tissue sections

REFERENCES

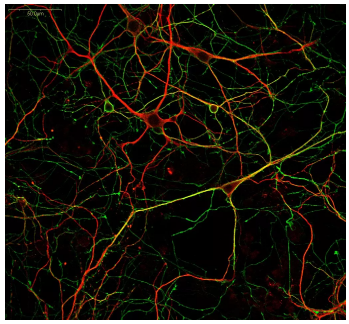
Product citations:

- Villamayor et al. Structural, morphometric and immunohistochemical study of the rabbit accessory olfactory bulb. Brain Struct Funct. 2019 Dec 4.
- Smits et al., Single-cell transcriptomics reveals multiple neuronal cell types in human midbrain-specific organoids. bioRxiv. 2019, March 28.
- Yokoi et al. Impact of Sleep–Wake-Associated Neuromodulators and Repetitive Low-Frequency Stimulation on Human iPSC-Derived Neurons Front Neurosci. 2019 May 29.
- Traub et al. hiPS Cell-Derived Neurons for High-Throughput Screening. Methods Mol Biol. 2019;1994:243-263

Selected articles on GABA:

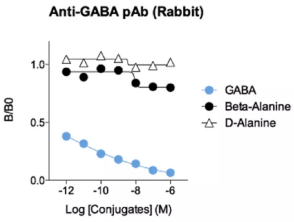
- Liu X, Wang Q, Haydar TF, Bordey A. Nonsynaptic GABA signaling in postnatal subventricular zone controls proliferation of GFAP-expressing progenitors. Nat Neurosci. 2005 Sep;8(9):1179-87. Epub 2005 Aug 14.
- Lawrence JJ. Cholinergic control of GABA release: emerging parallels between neocortex and hippocampus. Trends Neurosci. 2008 Jul;31(7):317-27. doi: 10.1016/j.tins.2008.03.008. Epub 2008 Jun 13.
- Baulac S, Huberfeld G, Gourfinkel-An I, Mitropoulou G, Beranger A, Prud'homme JF, Baulac M, Brice A, Bruzzone R, LeGuern E. First genetic evidence of GABA(A) receptor dysfunction in epilepsy: a mutation in the gamma2-subunit gene. Nat Genet. 2001 May;28(1):46-8.

Product pictures



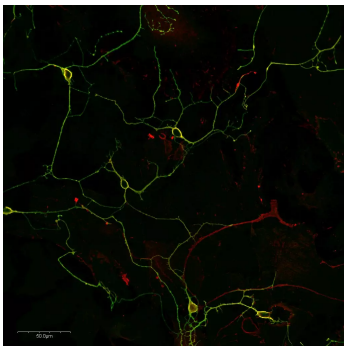
GABA labeling (green) in mouse cortical primary neurons

Immunodetection of GABA- (green) and MAP2- (red) positive neurons in mouse primary cortical culture. GABAergic neurons were stained using IS1006 anti-GABA antibody combined with MAP2 antibody using the stainperfect immunostaining kit A and appropriate protocol, respectively. Alexa fluor 488 and 546 secondary antibodies were used and pictures were captured by high-content imaging.



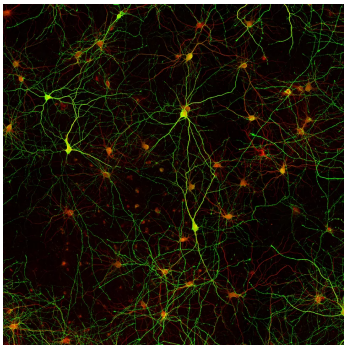
Affinity & specificity of anti-GABA antibody

Competitive ELISA demonstrates that low amounts of GABA conjugate are required to abolish antigen-antibody reaction (high affinity), while rising concentrations of β-Alanine and D-Alanine conjugates do not affect reaction (high specificity).



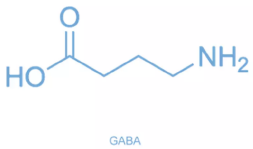
L-Glutamate and GABA in adult mouse primary cortical neurons

Adult mouse primary cortical neurons were stained with mouse monoclonal anti-L-glutamate antibody (red) combined with anti-GABA rabbit polyclonal antibody (green). Staining was performed using optimized sample preparation with STAINperfect immunostaining kit A and according to the protocol for cell culture. Fluorescent labeled secondary antibody were used and pictures were acquired by confocal imaging.



GABA labeling (green) in rat cortical primary neurons

Immunodetection of GABA- (green) and MAP2- (red) positive neurons in rat primary cortical culture. Total and GABAergic neurons were stained using an anti-MAP2 antibody and IS anti-GABA antibody combined with the stainperfect immunostaining kit A and appropriate protocol, respectively. Alexa fluor 546 and 488 secondary antibodies were used and pictures were captured by high-content imaging.



GABA

Gamma-aminobutyric acid (GABA)

In the mammalian brain, inhibitory neurotransmitter Gamma-aminobutyric acid (GABA) is mainly synthesized from excitatory L-Glutamate by enzyme glutamic acid decarboxylase (GAD). Regulating neuronal excitability, GABAergic synapses are present throughout the CNS, although GABA is found most highly concentrated in the subtantia nigra, the globus pallidus nuclei, the hypothalamus, the periaqueductal grey matter and the hyppocampus.

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https://www.immusmol.com/shop/gaba-polyclonal-antibody-bundle/