

L-Serine rabbit pAb – IS1003

Ref: IS1003-sp

The rabbit polyclonal antibody directed against conjugated L-Serine IS1003 is highly affine and specific. In combination with the [STAINperfect immunostaining kit A](#), the antibody directly labels L-serine in whole mounts, cell culture and tissue sections.

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	50 µL (approx. 40 tissue sections)

INFORMATIONS

Product overview

Product name	L-Serine antibody – Rabbit pAb
Synonyms	Anti-L-Serine acid antibody Anti-(S)-2-amino-3-hydroxypropionic acid antibody
Immunogen	Conjugated L-Serine
Specificity	When tested in competitive ELISA, the anti-conjugated L-Serine antibody did not show any significant cross reactivity with L-Serine analogs, including D-Serine and L-Threonine conjugates

Storage

Form	Liquid
Purity	Purified anti-serum
Storage buffer	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

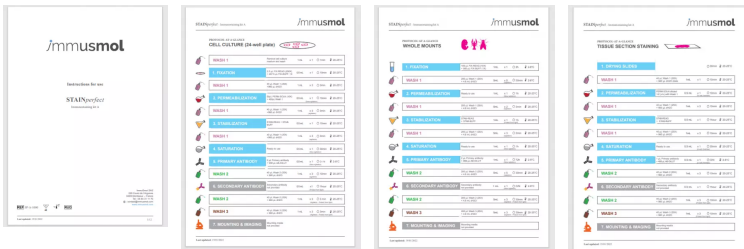
IF - Cell cultures, Whole mounts, Tissue sections Dilute antibody with the antibody diluent provided in the [STAINperfect immunostaining kit A](#). Use at 1/250 -1/1000 dilution. Follow the STAINperfect protocol suited to your sample

Comments Optimal working dilutions must be determined by the end-user

Restrictions For research use only

Full protocol [Download STAINperfect protocol for L-Serine 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](#)

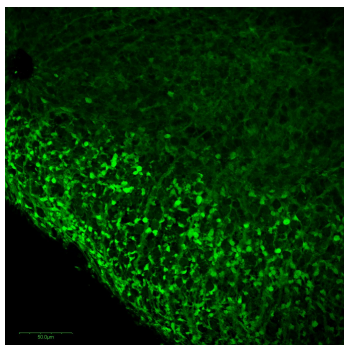
REFERENCES

Antibody not yet cited. Submit an article and [get a 10% discount](#).

Selected publications about L-Serine:

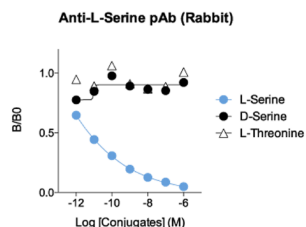
- [Pollari S et al. Enhanced serine production by bone metastatic breast cancer cells stimulates osteoclastogenesis. Breast Cancer Res Treat. 2011 Jan;125\(2\):421-30. doi: 10.1007/s10549-010-0848-5. Epub 2010 Mar 30.](#)
- [Yang JH et al. Brain-specific Phgdh deletion reveals a pivotal role for L-serine biosynthesis in controlling the level of D-serine, an N-methyl-D-aspartate receptor co-agonist, in adult brain. J Biol Chem. 2010 Dec 31;285\(53\):41380-90. doi: 10.1074/jbc.M110.187443. Epub 2010 Oct 21.](#)
- [Tabatabaie L, Klomp LW, Berger R, de Koning TJ. L-serine synthesis in the central nervous system: a review on serine deficiency disorders. Mol Genet Metab. 2010 Mar;99\(3\):256-62. doi: 10.1016/j.ymgme.2009.10.012. Epub 2009 Oct 25.](#)

Product pictures



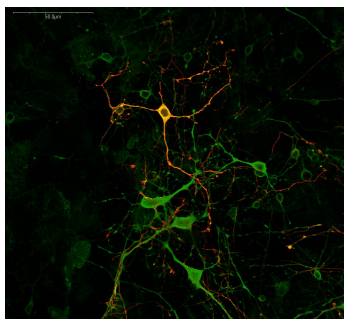
L-Serine immunostaining of mouse brainstem (E13.5)

Mouse brainstem (E13.5) immunostaining of soma of L-Serine cells after whole mount processing using STAINPerfect immunostaining kit A. Secondary antibody (goat anti-rabbit Alexa Fluor® 488) was used and picture was acquired by confocal imaging.



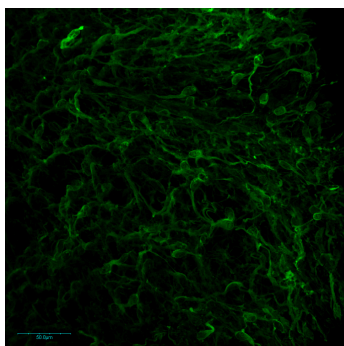
Affinity & specificity of anti-L-Serine antibody

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



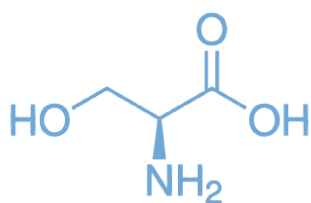
Staining of L-Serine and GABA positive neurons in mouse primary cortical culture

Primary mouse cortical neurons were stained using anti-L-Serine (green) polyclonal rabbit antibody (IS1003) and anti-GABA (red) chicken polyclonal antibody (IS1036) using the STAINperfect immunostaining kit A and according to the protocol for cell culture. Fluorescent conjugated secondary antibodies were used and picture obtained by confocal imaging. Co-immunostaining appears in yellow.



Immunofluorescence imaging of L-Serine in mouse brainstem

Mouse brainstem (E13.5) immunostaining of soma and fibers of L-Serine cells after whole mount processing using STAINPerfect immunostaining kit A. Alexa Fluor® 488 conjugated secondary antibody was used and picture was obtained by confocal imaging at high magnification.



L-Serine

L-Serine

L-Serine is a non-essential amino acid, which can be derived from dietary intake, from the glycolytic intermediate 3-phospho-glycerate, from glycine or by protein and phospholipid degradation. Serving in key metabolic pathways, including gluconeogenesis, cystathionine formation, glutathione synthesis and phospholipid synthesis, L-Serine plays a central role in cell proliferation. In the CNS, L-Serine is predominantly synthesized in astrocytes. Either converted into its enantiomer D-Serine or into glycine, L-Serine contributes to the regulation of NMDA receptor activity. Abnormal L-Serine synthesis has been found to be associated with psychiatric disorders and severe neurological disfunctions.

Contact information

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To order, review, ask for technical support, visit product page at:

<https://www.immusmol.com/shop/l-serine-polyclonal-antibody-bundle/>