## 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 <u>STAINperfect immunostaining kit A</u>, 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 Anti-L-Serine acid antibody Anti-(S)-2-amino-3-hydroxypropionic acid antibody	
Synonyms		
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 $+4^{\circ}$ C for short term (1-2 monts). 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 <u>STAINperfect immunostaining kit A.</u> 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**

	Halfigelit Insurance Immusmol	Manager January Januar	Minusmol
/mmus <b>mol</b>	CELL CULTURE (24-well plate)	WHOLE MOUNTS	TISSUE SECTION STAINING
	REAL Section to at the Real	. FEADON	1.047993.0.003 page 4 mars
	T TOUTON TRANSMENT ON IT DOW THIS	0	
fandractions for and	NAMES AND ADDRESS OF ADDRESS OF	WARE PROVIDENT IN A CONTRACTOR	WART STREET IN IT DON'T DON'T
STAINperfect	L'ALMANDALIZATION PROPERTY ON AT LONG PARTY	2 PERMITATION PROFESSION IN CONTRACT	2 PERSONAL DATION CONTINUES AND 12 AUGUST AND 12 AUGUST AND 12 AUGUST AND 12 AUGUST AU
Internationing in a	AND STREET IN A DOM FINE	WADY1 Distances on the Face	WARE THE AND A TO DOW A DOWN
	2 1 11AUR DATION DESCRIPTION OF AT OTHER PROPERTY	VIA STABLOATON COMMENTS ON ALL ON AND	A STABLIZATION THE IS ON A DWART AND
	NUMBER STREET, or other Ameri	WART THERE IS IN THE OWN PARTY	WARES TRANSPORT IN A DESCRIPTION
	A SALENATION NEW OR at down Faces	6 4 557/64/104 Matter in 11 21 21 Fact	
	A DESCRIPTION OF A DOWN AND	A PERSONAL PROPERTY AND A PARTY AND A PART	A DEMANDER ANTIGODER STATEMENT AND AN ADDRESS ANTIGATE
	AND TAXABLE TAXABLE IN A DOME ROOM	WASHING THE PARTY OF THE DESCRIPTION	WASH 2 HARMON M. IN DOM #2000
	A SECONDARYANTEDON DOWNSON ON A CONFERENCE	La SECONDARY ANTIDODY INVESTIGATION ON A 12 CON \$100	A RECORDERATION NUMBER OF A DESCRIPTION
	NAMES TATAON IN A DAMA PART	WARKS CONTRACTOR OF 12 CONTRACTOR	
none Y 4 MB	NEEDED CONTRACTOR OF A DESCRIPTION	WARKS THE REAL PROPERTY AND AND ADDRESS OF A	WARS STREET IN A STREET
10 III	2 RECATIVO & RADING STATIST	1 MOUNTING & MADDING Statement	
	Auropean review	Largent 14.50	

glance

for whole

mounts

Complete Instructions for Use

Protocol-at-a- Protocol-at-aglance for cell cultures

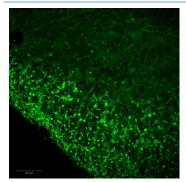
Protocol-at-aglance for tissue sections

## REFERENCES

Antibody not yet cited. Submit an article and get a 10% discount. **Selected publications about L-Serine:** 

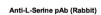
- Pollari S et al. Enhanced serine production by bone metastatic breast cancer cells stimulates osteoclastogenesis. Breast Cancer Res Treat. 2011 Jan;125(2):421-30. doi: 10.1007/s10549-010-0848-5. Epub 2010 Mar 30.
- Yang JH et al. Brain-specific Phgdh deletion reveals a pivotal role for L-serine biosynthesis 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.

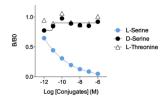
### **Product** pictures



#### 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.



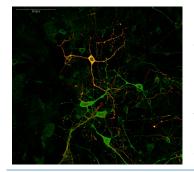


#### Affinity & specificity of anti-L-Serine antibody

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).

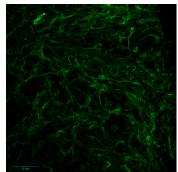
Product Data Sheet IS1003-sp





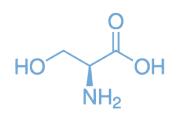
### Staining of L-Serine and GABA positive neurons in mouse primary cortical culture

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, gluthathione 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 psychatric disorders and severe neurological disfunctions.

### **Contact information**

Immusmol 229 Cours de l'Argonne 33 000 Bordeaux - France Tel: +33 (0) 5 6431 1170 www.immusmol.com

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

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