

# D-Serine rabbit pAb – IS1004

Ref: IS1004-sp

The anti-D-Serine antibody IS1004 is a rabbit polyclonal antibody with high affinity and specificity. Combined with the [STAINperfect immunostaining kit A](#), the antibody allows visualizing D-Serine in whole mounts, cell culture and tissue sections.

<b>Clonality</b>	Polyclonal antibody
<b>Host</b>	Rabbit
<b>Reactivity</b>	Reacts with all species
<b>Eligible samples</b>	Whole mounts, cell culture, tissue sections
<b>Staining procedure</b>	<a href="#">STAINperfect immunostaining kit A</a>
<b>Format</b>	50µL (approx. 40 tissue sections)

## INFORMATIONS

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### Product overview

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<b>Product name</b>	D-Serine antibody – Rabbit pAb
<b>Synonyms</b>	Anti-D-Serine antibody Anti (R)-Serine antibody
<b>Immunogen</b>	Conjugated D-Serine
<b>Specificity</b>	When tested in competitive ELISA, the anti-conjugated D-Serine antibody did not show any significant cross reactivity with D-Serine analogs, including L-Serine and D-Threonine
<b>Lot number</b>	140301

### Storage

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

# 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

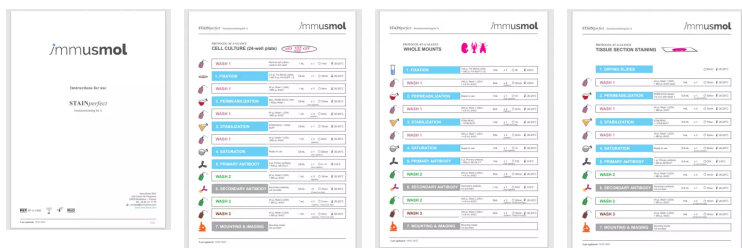
**Restrictions**

For research use only

**Full protocol**

[Download STAINperfect protocol for D-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

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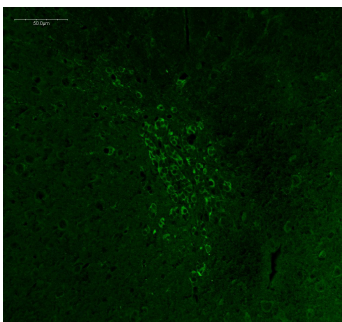
Antibody not yet cited. Submit an article and get a 10% discount.

### **Selected publications on D-Serine:**

- [Paul P, de Belleruche J. The role of D-serine and glycine as co-agonists of NMDA receptors in motor neuron degeneration and amyotrophic lateral sclerosis \(ALS\). Front Synaptic Neurosci. 2014 Apr 16;6:10.](#)
- [Balu DT et al. D-serine and serine racemase are localized to neurons in the adult mouse and human forebrain. Cell Mol Neurobiol. 2014 Apr;34\(3\):419-35. doi: 10.1007/s10571-014-0027-z. Epub 2014 Jan 17.](#)
- [Klatte K et al. Impaired D-serine-mediated cotransmission mediates cognitive dysfunction in epilepsy. J Neurosci. 2013 Aug 7;33\(32\):13066-80.](#)
- [Otte DM et al. Effects of Chronic D-Serine Elevation on Animal Models of Depression and Anxiety-Related Behavior. PLoS One. 2013 Jun 21;8\(6\):e67131.](#)
- [Martineau M et al. Storage and uptake of D-serine into astrocytic synaptic-like vesicles specify gliotransmission. J Neurosci. 2013 Feb 20;33\(8\):3413-23. doi: 10.1523/JNEUROSCI.3497-12.2013.](#)
- [Van Horn MR, Sild M, Ruthazer ES. D-serine as a gliotransmitter and its roles in brain development and disease. Front Cell Neurosci. 2013 Apr 23;7:39. doi: 10.3389/fncel.2013.00039.](#)

## Product pictures

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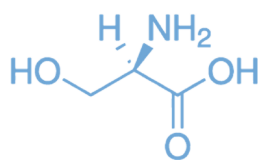


### **D-Serine imaging in adult mouse frontal cortex**

Using STAINperfect immunostaining kit A and following protocol developed for tissue sections, the anti-D-Serine rabbit polyclonal antibody (Ref: IS1004) revealed the presence of D-Serine positive cells within mouse frontal cortex with a cytoplasmic pattern. The staining was revealed using Alexa Fluor® 488-conjugated secondary antibody and image obtained using confocal imaging.

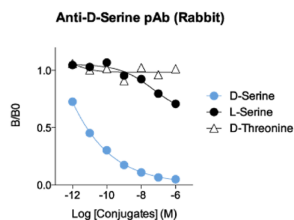
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## D-Serine



D-Serine

Synthesized from L-Serine in the mammalian brain by the serine racemase enzyme, D-Serine is mainly expressed in the forebrain. Known as a potent co-agonist of the NMDA receptor, D-serine acts both as a gliotransmitter and neurotransmitter, playing a key role in cognition, memory, as well as in the regulation of mood. Elevated levels of D-Serine were recently found in the spinal cord of ALS models and patients, suggesting that the metabolite contributes to motor neuron degeneration. D-Serine production was also observed in peripheral organs, independently of SR expression.



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

Competitive ELISA demonstrates that low amount of D-Serine conjugate is required to abolish antigen recognition by the antibody (high affinity), while rising concentrations of L-Serine or D-Threonine conjugates do not affect this reaction (high specificity).

## Contact information

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

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