

## Datasheet: 6625-1010

<b>Description:</b>	MOUSE ANTI RAT NESTIN
<b>Specificity:</b>	NESTIN
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	Rat-401 (4D4)
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	0.1 mg

## Product Details

### Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit [www.bio-rad-antibodies.com/protocols](http://www.bio-rad-antibodies.com/protocols).

	Yes	No	Not Determined	Suggested Dilution
Immunohistology - Frozen	▪			1/20 - 1/200
Immunohistology - Paraffin	▪			1/20 - 1/200
Western Blotting	▪			
Immunofluorescence	▪			

Where this product has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the product for use in their own system using appropriate negative/positive controls.

<b>Target Species</b>	Rat
<b>Species Cross Reactivity</b>	Reacts with: Mouse Does not react with: Human <b>N.B.</b> Antibody reactivity and working conditions may vary between species.
<b>Product Form</b>	Purified IgG - liquid
<b>Preparation</b>	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant
<b>Buffer Solution</b>	TRIS buffered saline.
<b>Preservative Stabilisers</b>	0.09% Sodium Azide (NaN <sub>3</sub> )
<b>Approx. Protein Concentrations</b>	IgG concentration 0.5mg/ml
<b>Immunogen</b>	Nestin purified from embryonic rat spinal cord.
<b>External Database</b>	<b>UniProt:</b>

## Links

[P21263](#) [Related reagents](#)

## Entrez Gene:

[25491](#) Nes [Related reagents](#)

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## Fusion Partners

Spleen cells from immunised Balb/c mice were fused with cells of the NS1 myeloma cell line.

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## Specificity

**Mouse anti Rat Nestin antibody, clone Rat-401** recognizes rat nestin, a large intermediate filament protein transiently expressed in embryonic glial cells ([Hockfield and McKay 1985](#)). It is predominately expressed in stem cells of the developing nervous system. Terminal differentiation is associated with a loss of nestin expression. Nestin expression has also been noted in other embryonic tissues, also in most Glioblastoma multiformes and many melanomas.

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## Immunohistology

We recommend perfusing tissues with 4% paraformaldehyde at pH 7.4 for light microscopy or with either 4% paraformaldehyde at pH 10.0 or 4% paraformaldehyde with 0.1% glutaraldehyde at pH 7.4 for EM. For Immunocytochemistry we recommend using cells fixed in 4% paraformaldehyde buffered with 50 mM sodium borate at pH 9.5.

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## Western Blotting

Mouse anti Rat Nestin antibody, clone Rat-401 reacts with a band at 200-220 kDa in reducing gels of newborn rat or mouse cell extracts. For western blotting it is recommended that samples should be boiled in 4 volumes of 125 mM Tris, pH 6.8, 10% 2-mercaptoethanol, 10% glycerol and 4.6% SDS. Membranes should be blocked with milk or BSA. 5% PAGE gels are suggested.

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## References

1. Arnold, T.D. *et al.* (2012) Defective Retinal Vascular Endothelial Cell Development As a Consequence of Impaired Integrin  $\alpha V\beta 8$ -Mediated Activation of Transforming Growth Factor- $\beta$ . [J Neurosci. 32: 1197-206.](#)
2. Mori, T. *et al.* (2005) Combination of hTERT and bmi-1, E6, or E7 induces prolongation of the life span of bone marrow stromal cells from an elderly donor without affecting their neurogenic potential. [Mol Cell Biol. 25: 5183-95.](#)
3. Choi, J.S. *et al.* (2010) Expression of vascular endothelial growth factor receptor-3 mRNA in the rat developing forebrain and retina. [J Comp Neurol. 518: 1064-81.](#)
4. Choi, J.S. *et al.* (2007) Upregulation of vascular endothelial growth factor receptors Flt-1 and Flk-1 following acute spinal cord contusion in rats. [J Histochem Cytochem. 55: 821-30.](#)
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6. Shin, Y.J. *et al.* (2010) Enhanced expression of vascular endothelial growth factor receptor-3 in the subventricular zone of stroke-lesioned rats. [Neurosci Lett. 469: 194-8.](#)
7. Zhang, H. *et al.* (2003) VEGF is a chemoattractant for FGF-2-stimulated neural progenitors. [J Cell Biol. 163: 1375-84.](#)
8. Aleksandrova, M.A. *et al.* (2001) Transplantation of Cultured Human Neural Progenitor Cells into Rat Brain: Migration and Differentiation [Bull Exp Biol Med. 132: 1000-3.](#)
9. Bertelli, E. *et al.* (2002) Nestin expression in rat adrenal gland. [Histochem Cell Biol. 117: 371-7.](#)
10. Choi, J.S. *et al.* (2009) Enhanced expression of SOCS-2 in the rat hippocampus after transient forebrain ischemia. [J Neurotrauma. 26: 2097-106.](#)
11. Poltavtseva, R.A. *et al.* (2001) *In vitro* development of neural progenitor cells from human embryos. [Bull Exp Biol Med. 132: 861-3.](#)
12. Shin, Y.J. *et al.* (2013) Induction of vascular endothelial growth factor receptor-3 expression in perivascular cells of the ischemic core following focal cerebral ischemia in rats. [Acta Histochem. 115 \(2\): 170-7.](#)
13. Barreira, A.L. *et al.* (2009) Bone marrow mononuclear cells attenuate interstitial fibrosis and stimulate the repair of tubular epithelial cells after unilateral ureteral obstruction. [Cell Physiol Biochem. 24: 585-94.](#)

14. Araujo, M. R. *et al.* (2016) Mesenchymal stem cells promote augmented response of endogenous neural stem cells in spinal cord injury of rats [Semina: Ciências Agrárias. 37 \(3\): 1355.](#)
15. Shin, Y.J. *et al.* (2016) Increased expression of suppressor of cytokine signaling 2 in the subventricular zone after transient focal cerebral ischemia in adult rats. [Brain Res. Jul 26. \[Epub ahead of print\]](#)

<b>Storage</b>	Store at +4°C or at -20°C if preferred. Storage in frost-free freezers is not recommended. This product should be stored undiluted. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.
<b>Shelf Life</b>	18 months from date of despatch.
<b>Health And Safety Information</b>	Material Safety Datasheet documentation available at: Material Safety Datasheet Documentation #10057 available at: <a href="https://www.bio-rad-antibodies.com/uploads/MSDS/10057.pdf">https://www.bio-rad-antibodies.com/uploads/MSDS/10057.pdf</a>
<b>Regulatory</b>	For research purposes only

## Related Products

### Recommended Secondary Antibodies

Goat Anti Mouse IgG (STAR76...)	<a href="#">RPE</a>
Goat Anti Mouse IgG IgA IgM (STAR87...)	<a href="#">Alk. Phos.</a> , <a href="#">HRP</a>
Goat Anti Mouse IgG (H/L) (STAR117...)	<a href="#">Alk. Phos.</a> , <a href="#">DyLight@488</a> , <a href="#">DyLight@549</a> , <a href="#">DyLight@649</a> , <a href="#">DyLight@680</a> , <a href="#">DyLight@800</a> , <a href="#">FITC</a> , <a href="#">HRP</a>
Rabbit Anti Mouse IgG (STAR9...)	<a href="#">FITC</a>
Goat Anti Mouse IgG (STAR77...)	<a href="#">HRP</a>
Rabbit Anti Mouse IgG (STAR12...)	<a href="#">RPE</a>
Goat Anti Mouse IgG (Fc) (STAR120...)	<a href="#">FITC</a> , <a href="#">HRP</a>
Rabbit Anti Mouse IgG (STAR8...)	<a href="#">DyLight@800</a>
Goat Anti Mouse IgG (STAR70...)	<a href="#">FITC</a>
Human Anti Mouse IgG1 (HCA036...)	<a href="#">HRP</a>
Rabbit Anti Mouse IgG (STAR13...)	<a href="#">HRP</a>

### Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL \(MCA1209\)](#)

<b>North &amp; South America</b>	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: <a href="mailto:antibody_sales_us@bio-rad.com">antibody_sales_us@bio-rad.com</a>	<b>Worldwide</b>	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: <a href="mailto:antibody_sales_uk@bio-rad.com">antibody_sales_uk@bio-rad.com</a>	<b>Europe</b>	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: <a href="mailto:antibody_sales_de@bio-rad.com">antibody_sales_de@bio-rad.com</a>
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