

## Product datasheet

anti-Synaptopodin/SYNPO mouse monoclonal, G1D4, lyophilized, purified

### Short overview

<b>Cat. No.</b>	61094
<b>Quantity</b>	50 µg
<b>Concentration</b>	50 µg/ml after reconstitution with 1 ml dist. water

### Product description

<b>Host</b>	Mouse
<b>Antibody Type</b>	Monoclonal
<b>Isotype</b>	IgG1
<b>Clone</b>	G1D4
<b>Immunogen</b>	Isolated rat kidney glomeruli
<b>Formulation</b>	Lyophilized; reconstitute in 1 ml dist. water (final solution contains 0.09% sodium azide, 0.5% BSA in PBS buffer, pH 7.4)
<b>UniprotID</b>	A4IFK4 (Bovine), A0A286XK19 (Guinea pig), Q8N3V7 (Human), Q91YE8 (Mouse), D4A702 (Rat)
<b>Synonym</b>	Synaptopodin, SYNPO, KIAA1029
<b>Conjugate</b>	Unconjugated
<b>Purification</b>	Affinity chromatography
<b>Storage before reconstitution</b>	2-8°C until indicated expiry date
<b>Storage after reconstitution</b>	Up to 3 months at 2-8°C; long term storage in aliquots at -20°C; avoid freeze/thaw cycles
<b>Intended use</b>	Research use only
<b>Application</b>	ICC/IF, IHC, WB
<b>Reactivity</b>	Human, Mouse, Rat
<b>No reactivity</b>	Chicken, Frog, Rabbit

### Applications

<b>Immunocytochemistry (ICC)</b>	Assay dependent
<b>Immunohistochemistry (IHC) - frozen</b>	1:50-1:200
<b>Immunohistochemistry (IHC) - paraffin</b>	1:50-1:200 (microwave treatment recommended)
<b>Western Blot (WB)</b>	Assay dependent

### Background

The antibody recognizes differentiated podocytes (glomerular visceral epithelial cells) in vivo and in vitro (weaker additional reaction with arterial endothelial cells), co-localization with alpha-actinin. Does not react with parietal cells. Reacts with a subset of exclusively telencephalic synapses. Differentiation-dependent expression during postnatal maturation of rat brain. Differentiation-dependent expression in cultured hippocampal

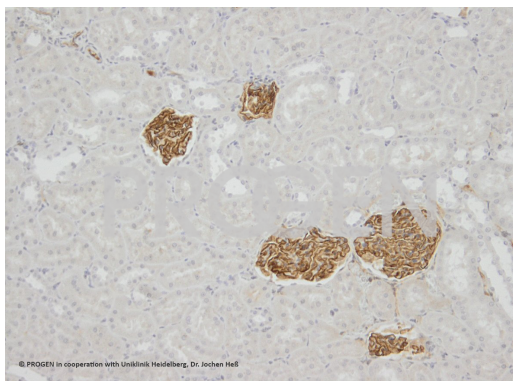
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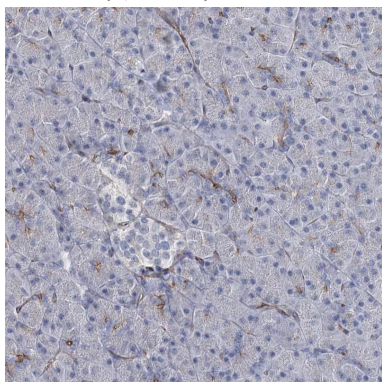
neurons.

The antibody reacts specifically with synaptopodin, a prolin-rich actin-binding protein with 2 binding sites for actin. Synaptopodin represents a new class of actin-binding proteins which has first been localized in podocytes and a subset of telencephalic postsynaptic densities. In human tissue synaptopodin has a molecular weight of 73.7 kDa and pI of 9.38 (calculated from sequence data); in mouse the corresponding data are 74 kDa, pI 9.27. In SDS-PAGE the antigen appears as 100 kDa polypeptide in brain and 110 kDa polypeptide in kidney (the difference might be attributed to posttranslational modifications). In Western blot analysis the antibody also reacts with a 44 kDa degradation fragment of synaptopodin.

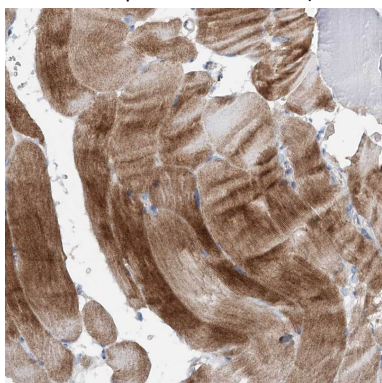
## Product images



Rat kidney (courtesy of J. Heß, University Hospital Heidelberg)



Synaptopodin staining on human pancreas (courtesy of The Human Protein Atlas, [www.proteinatlas.org](http://www.proteinatlas.org), Thul PJ et al, 2017. A subcellular map of the human proteome. Science)



Synaptopodin staining on human skeletal muscle (courtesy of The Human Protein Atlas, [www.proteinatlas.org](http://www.proteinatlas.org), Thul PJ et al, 2017. A subcellular map of the human proteome. Science)

## References

Publication	Species	Application
<a href="#">Moritz Schanz Martin Kimmel Mark Dominik Alscher Kerstin Amann Christoph Daniel., TIMP-2 and IGFBP7 in human kidney biopsies in renal disease. Clin Kidney J. 16 1434-1446. (2023).</a>	Human	IHC-IF
<a href="#">Montandon, M., Hamidouche, T., et al. Telomerase is required for glomerular renewal in kidneys of adult mice. NPJ Regen Med. (2022).</a>	Mouse	IHC-IF
<a href="#">Ekulu, P. M. et al. Novel human podocyte cell model carrying g2/g2 apol1 high-risk genotype. Cells 10, (2021).</a>	human	WB
<a href="#">Zhu, Z. et al. Mitoquinone Protects Podocytes from Angiotensin II-Induced Mitochondrial Dysfunction and Injury via the Keap1-Nrf2 Signaling Pathway. Oxid. Med. Cell. Longev. 2021, (2021).</a>	rat	IHC-IF
<a href="#">Ornellas, F. et al. Mesenchymal Stromal Cells Induce Podocyte Protection in the Puromycin Injury Model. Sci.Rep. 9, 19604 (2019)</a>	rat	IHC (paraffin)