

Product datasheet

anti-Synaptopodin/SYNPO mouse monoclonal, G1D4, supernatant

Short overview

Cat. No.	65194
Quantity	5 ml

Product description

Host	Mouse
Antibody Type	Monoclonal
Isotype	IgG1
Clone	G1D4
Immunogen	Isolated rat kidney glomeruli
Formulation	Contains 0.09% sodium azide
UniprotID	A4IFK4 (Bovine), A0A286XK19 (Guinea pig), Q8N3V7 (Human), Q91YE8 (Mouse), D4A702 (Rat)
Synonym	Synaptopodin, SYNPO, KIAA1029
Conjugate	Unconjugated
Purification	Hybridoma cell culture supernatant
Storage	Short term at 2-8°C; long term storage in aliquots at -20°C; avoid freeze/thaw cycles
Intended use	Research use only
Application	ICC/IF, IHC, WB
Reactivity	Human, Mouse, Rat
No reactivity	Chicken, Frog, Rabbit

Applications

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

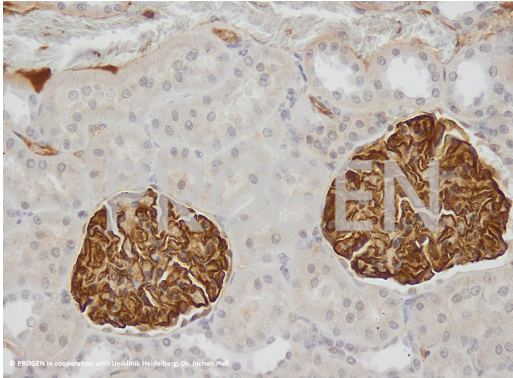
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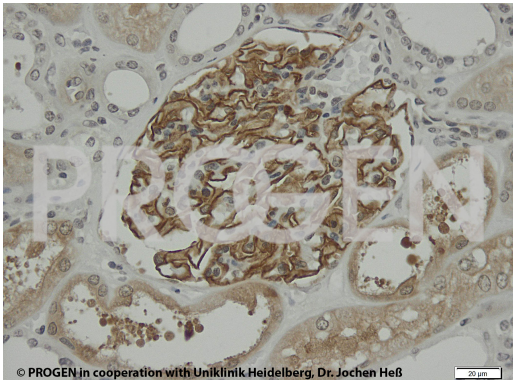
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attributed to posttranslational modifications). In Western blot analysis the antibody also reacts with a 44 kDa degradation fragment of synaptopodin.

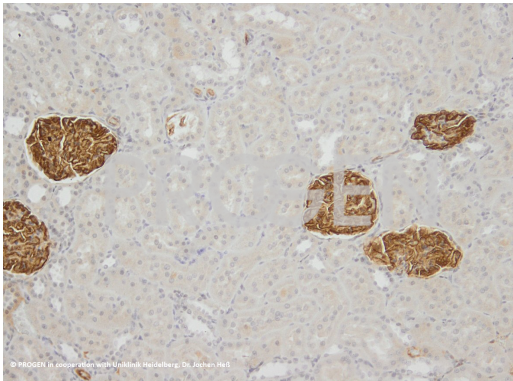
Product images



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



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



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

References

Publication	Species	Application
Turk, T. et al. BMP Signaling and Podocyte Markers Are Decreased in Human Diabetic Nephropathy in Association With CTGF Overexpression. J. Histochem. Cytochem. 57, 623-631 (2009).	human,mouse	IHC (paraffin)
Wagner, N. et al. The podocyte protein nephrin is required for cardiac vessel formation. Hum. Mol. Genet. 20, 2182-2194 (2011).	mouse	IHC (frozen)
GÃ¶del, M. et al. Role of mTOR in podocyte function and diabetic nephropathy in humans and mice. J. Clin. Invest. 121, 2197-2209 (2011).	human	IHC (frozen)
Rachubik, P. et al. The TRPC6-AMPK pathway is involved in insulin-dependent cytoskeleton reorganization and glucose uptake in cultured rat podocytes. Cell. Physiol. Biochem. 51, 393â€“410 (2018).	Rat	
Barisoni, L., Kriz, W., Mundel, P. & Dâ€™Agati, V. The dysregulated podocyte phenotype: a novel concept in the pathogenesis of collapsing idiopathic focal segmental glomerulosclerosis and HIV-associated nephropathy. J. Am. Soc. Nephrol. 10, 51-61 (1999).	human	IHC (paraffin)