

Monoclonal Antibody to Synaptopodin / SYNPO - FITC

Alternate names:	KIAA1029
Catalog No.:	BM5086F
Quantity:	0.25 ml
Background:	Synaptopodin, a prolin-rich actin-binding protein with 2 binding sites for actin, 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 kD and pI of 9.38 (calculated from sequence data); in mouse the corresponding data are 74 kD, pI 9.27. In SDS-PAGE the antigen appears as 100 kD polypeptide in brain and 110 kD polypeptide in kidney (the difference might be attributed to posttranslational modifications). In Western blot analysis, the antibody also reacts with a 44 kD degradation fragment of Synaptopodin.
Uniprot ID:	Q8N3V7
NCBI:	NP_001103444.1
GeneID:	11346
Host / Isotype:	Mouse / IgG1
Clone:	G1D4
Immunogen:	Isolated rat kidney glomeruli
Format:	State: Liquid purified Ig fraction Purification: Affinity Chromatography on Protein A Label: FITC
Applications:	Immunofluorescence: 1/10 with PBS <i>Incubation time:</i> 1 h at RT. Immunohistochemistry on Frozen and Paraffin sections. Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
Specificity:	The antibody reacts specifically with Synaptopodin, a prolin-rich actin-binding protein with 2 binding sites for actin. 1. The antibody recognizes differentiated podocytes (glomerular visceral epithelial cells) in vivo and in vitro (weaker additional reaction with arterial endothelial cells), co-localization with α -actinin. Does not react with parietal cells. 2. Reacts with a subset of exclusively telencephalic synapses. Differentiationdependent expression during postnatal maturation of rat brain. Differentiationdependent expression in cultured hippocampal neurons. Species: Human, Bovine, Rat, Mouse, Guinea Pig, Gerbil. Negative with Rabbit, Frog, and Chicken. Other species not tested.

For research and in vitro use only. Not for diagnostic or therapeutic work.

Material Safety Datasheets are available at www.acris-antibodies.com or on request.

Antibody Hotline - Technical Questions - Antibody Location Service
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- Storage:** Store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer. Avoid repeated freezing and thawing. Shelf life: one year from despatch.
- Product Citation:** Unconjugated antibody is cited in:
1. Philipp Lechler, Xiaoqing Wu, Wanja Bernhardt, Valentina Campean, Susanne Gastiger, Thomas Hackenbeck, Bernd Klanke, Alexander Weidemann, Christina Warnecke, Kerstin Amann, Dirk Engehausen, Carsten Willam, Kai-Uwe Eckardt, Franz Rödel, and Michael Sean Wiesener. The Tumor Gene Survivin Is Highly Expressed in Adult Renal Tubular Cells: Implications for a Pathophysiological Role in the Kidney. *Am. J. Pathol.*, Nov 2007; 171: 1483-1498.
- General References:**
1. Mundel P, Gilbert P, and W Kriz. Podocytes in Glomerulus of Rat Kidney Express a Characteristic 44 kD Protein. *J Histochem and Cytochem Vol 39 No 8:1047-1056 (1991)*
 2. Mundel P and W Kriz. Structure and function of podocytes: an update. *Anat Embryol 192:385-397 (1995)*
 3. Mundel P, Reiser J, Kriz W. Phenotypic conversion and differentiation of human and rat podocytes in vitro. *J Am Soc Nephrol 8:8978-705 (1997)*
 4. Mundel P, Heid HW, Mundel TM, Krüger M, Reiser J, Kriz W. Synaptopodin, an actin-associated protein in telencephalic dendrites and in renal podocytes. *J Cell Biol Vol 139 (1):193-204 (1997)*
 5. Mundel P, Reiser J, Zuniga Borja A, Davidson G, Pavenstädt H, Kriz W, Zeller R. Rearrangements of cytoskeleton and cell contacts induce process formation and postmitotic differentiation of conditionally immortalized mouse podocyte cell lines, *Exp Cell Res 236: 248-258 (1997)*
 6. Kobayashi N, Kriz W, Kuriyama R, Mundel P: Non-uniform microtubular polarity, established by CHO1/MKLP1 motor protein, is necessary for process formation of podocytes. *J Cell Biol 143: 1961-1970 (1998)*
 7. Barisoni L, Kriz W, Mundel P, D'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)*
 8. Kihara I, Yaoita E, Kawasaki K, Yamamoto T, Hara M, Yanagihara T: Origin of hyperplastic epithelial cells in idiopathic collapsing glomerulopathy. *Histopathology 34(6): 537-547 (1999)*
 9. Asanuma K, Kim K, Oh J, Giardino L, Chabanis S, Faul C, Reiser J, Mundel P: synaptopodin regulates the actin-bundling activity of α -actinin in an isoform-specific manner. *J Clin Invest 115, 1188-1198 (2005)*

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