Acris Antibodies GmbH

Schillerstr. 5
32052 Herford
GERMANY
Phone: +49-5221-34606-0
Fax: +49-5221-34606-11
info@acris-antibodies.com

US office:
Acris Antibodies, Inc.
San Diego, CA
UNITED STATES
Phone: +1-858-888-7900
Fax: +1-858-888-7904
US-info@acris-antibodies.com

Monoclonal Antibody to Synaptopodin / SYNPO - Supernatant

Alternate names: KIAA1029

Catalog No.: BM5086

Quantity: 5 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).

Uniprot ID: Q8N3V7

NCBI: NP_001103444.1

GeneID: 11346

Host / Isotype: Mouse / IgG1

Clone: G1D4

Immunogen: Isolated Rat kidney glomeruli

Format: **State:** Liquid Culture Supernatant with 0.01% Sodium Azide as preservative

Applications:
Immunoblotting (Western Blot).
Immunofluorescence.
Immunohistochemistry on Frozen Sections.
Immunohistochemistry on Paraffin Sections (after microwave treatment).
Incubation Time: 1 h at RT for Immunohistochemistry .
Working Dilution: Ready-to-use for Immunohistochemistry.
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity: The antibody reacts specifically with Synaptopodin.
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.
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 alpha-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 Reactivity: **Tested:** Human, Bovine, Rat, Mouse, Guinea Pig and Gerbil. Negative with Rabbit, Frog and Chicken.

Storage: Store the antibody undiluted at 2-8°C.
Shelf life: one year from despatch.

Product Citation:
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*.
2. Valentina Campean, Britta Karpe, Christian Haas, Akram Atalla, Harm Peters, Harald Rupprecht, Stefan Liebner, Till Acker, Karl Plate, and Kerstin Amann. Angiopoietin 1 and 2 gene and protein expression is differentially regulated in acute anti-Thy1.1 glomerulonephritis. *Am J Physiol Renal Physiol, May 2008; 294: F1174-F1184*.
3. Laura L. Yates, Jenny Papakrivopoulou, David A. Long, Paraskevi Goggolidou, John O. Connolly, Adrian S. Woolf, and Charlotte H. Dean. The planar cell polarity gene Vangl2 is required for mammalian kidney-branching morphogenesis and glomerular maturation. *Hum. Mol. Genet., Sep 2010; 10.1093/hmg/ddq397*.
4. Laura L. Yates, Jenny Papakrivopoulou, David A. Long, Paraskevi Goggolidou, John O. Connolly, Adrian S. Woolf, and Charlotte H. Dean: The planar cell polarity gene Vangl2 is required for mammalian kidney-branching morphogenesis and glomerular maturation. *Hum. Mol. Genet., Dec 2010; 19: 4663-4676*.

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 Kritz. 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, Kuriyma 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)