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Product Information

Anti-Podocin, Mouse monoclonal
Clone PD-65, purified from hybridoma cell culture

Product Number **SAB4200810**

Product Description

Monoclonal Anti-Podocin (mouse IgG2a isotype) is derived from the PD-65 hybridoma, produced by the fusion of mouse myeloma cells and splenocytes from a mouse immunized with synthetic peptide corresponding to the C-terminal region of human Podocin (GeneID: 7827), conjugated to KLH as immunogen. The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents (Product Number ISO2). The antibody is purified from culture supernatant of hybridoma cells.

Monoclonal Anti-Podocin specifically recognizes podocin from human, mouse, rat, hamster, and bovine origin. The antibody may be used in various immunochemical techniques including immunoblotting (~42 kDa) and immunofluorescence. Detection of the podocin band by immunoblotting is specifically inhibited by the immunogen.

Podocytes are highly specialized visceral epithelial cells that cover the outer aspect of the glomerulus in the kidney. The foot processes of adjacent podocytes regularly interdigitate leaving filtration slits that are bridged by a thin slit diaphragm. This is an extracellular adherens-like junction that serves as a barrier to macromolecules and plays a crucial role in the glomerular filtration process.

Podocin (NPHS2 protein) is an important member of a group of proteins shown to be associated with the slit diaphragm.[1-4] Podocin belongs to the band-7-stomatin family of lipid raft-associated proteins. It is a hairpin-like integral membrane protein with intracellular N- and C-termini. Podocin is located at the insertion site of the slit membrane, and is thought to act as a scaffold protein required to maintain or regulate the structural integrity of the slit diaphragm. It interacts there with nephrin (NPHS1 protein), a protein critical in development and function of the kidney filtration barrier and the adapter protein CD2-AP.

Podocin is anchored in the glycosphingolipids and cholesterol rich lipid rafts of the outer leaflet of the plasma membrane and is partially localized with the actin cytoskeleton.[5] *In vitro* studies suggest its involvement in nephrin signaling facilitation via AP-1 in HEK cells. In addition to its presence in the kidney, it was also reported in rat nervous tissue and possibly in vascular smooth muscle.[6,7]

Podocin is the target protein of autosomal recessive steroid-resistant nephrotic syndrome and in sporadic cases of non-familial focal segmental glomerulosclerosis. Many of the NPHS2 mutations lead to retention of the mutant proteins in the endoplasmic reticulum.[8] Podocin-deficient mice have been found to develop proteinuria during the antenatal period and die shortly after birth from renal failure.[9]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody Concentration: ~1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 0.25-0.5 μg/mL is recommended using human HEK-293T cell line extract.

Immunofluorescence: a working concentration of 1-2 μg/mL is recommended using human HEK-293T cells.

Note: In order to obtain best results in different techniques and preparations, it is recommended to determine optimal working concentration by titration test.

References

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