Saint Louis, Missouri 63103 USA
Telephone (800) 325-5832 (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

ProductInformation

Anti-Archvillin
Produced in rabbit
Affinity Isolated Antibody

Product Number **A 1355**

Product Description

Anti-Archvillin is developed in rabbit using as immunogen a synthetic peptide corresponding to amino acid residues 650-666 of human archvillin with C-terminal added cysteine, conjugated to KLH. The corresponding sequence is identical in mouse. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Archvillin recognizes human, mouse, and rat archvillin. Applications include immunoblotting (~250 kDa), immunofluorescence, and immunohistochemistry. Detection of the archvillin band by immunoblotting is specifically inhibited with the immunizing peptide.

Archvillin is a 250 kDa muscle specific isoform of the membrane skeleton protein supervillin.[1] Supervillin is a 205 kDa F-actin-binding protein originally isolated from bovine neutrophils.[2, 3] Supervillin is a tightly bound peripheral membrane protein that is concentrated at sites of epithelial cell-cell adhesion. It contributes to cell-cell adhesion, motility regulation, and information transfer between cell compartments.[2, 4, 5] The COOH-terminus of supervillin is homologous to villin/gelsolin but is not responsible for the tight binding to the actin cytoskeleton *in vivo*. The NH_2-terminus contains functional nuclear localization sequences, and F-actin and myosin II binding domains.[5, 6] Archvillin is derived from the supervillin genomic locus (SVIL) by differential splicing of five conserved exons. Four of these exons encode a ~47 kDa muscle-specific protein sequence that is distributed as two inserts within the function-rich NH_2-terminus of supervillin.[1]

Archvillin localizes at costameres, specialized adhesion sites in muscle. Like supervillin, archvillin binds F-actin and is tightly associated with both actin filaments and plasma membranes. In myoblasts, it colocalizes with membrane associated actin filaments, non-muscle myosin II, dystrophin, and vinculin. Archvillin contributes to muscle architecture and differentiation.[1]

Reagent

The antibody is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody Concentration: ~1.0 mg/mL

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous 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. Storage in “frost-free” freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

By immunoblotting, a working antibody concentration of 2.5-5 µg/mL is recommended using a whole extract of differentiated mouse C2 cells.

By indirect immunofluorescence, a working antibody concentration of 20-40 µg/mL is recommended using differentiated rat L8 cells.

By immunohistochemistry, a working antibody concentration of 20-40 µg/mL is recommended using biotin/ExtrAvidin™-Peroxidase staining of heat-retrieved, formalin-fixed, paraffin-embedded human heart sections.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

1. Oh, S.W., et al., J. Cell Sci., **116**, 2261-2275 (2003).
2. Pestonjamasp, K.N., et al., J. Cell Biol., **139**, 1255-1269 (1997).
3. Pope, R.K., et al., Genomics, **52**, 342-351 (1998).
4. Nebl, T., et al., J. Biol. Chem., **277**, 43399-43409 (2002).
5. Wulfkuhle, J.D., et al., J. Cell Sci., **112**, 2125-2136 (1999).
6. Chen, Y., et al., J. Biol. Chem., **278**, 46094-46106 (2003).

KAA/ST 08/05