



3050 Spruce Street  
Saint Louis, Missouri 63103 USA  
Telephone 800-325-5832 • (314) 771-5765  
Fax (314) 286-7828  
email: techserv@sial.com  
sigma-aldrich.com

## Product Information

### Monoclonal Anti-Vinculin Clone hVIN-1 Mouse Ascites Fluid

Product No. **V 9131**

#### Product Description

Monoclonal Anti-Vinculin (mouse IgG1 isotype) is derived from the hVIN-1 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from immunized BALB/c mice. Vinculin, purified from human uterus, was used as the immunogen. The isotype is determined using Sigma ImmunoType™ Kit (Product Code ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Product Code ISO-2).

Monoclonal Anti-Vinculin specifically stains vinculin at cell-cell and cell-substrate contacts in tissue and cultured cells using indirect immunofluorescent labeling. The antibody reacts with the 116 kDa vinculin band in immunoblotting. The product reacts with vinculin of many species. Good reactivity is obtained with human, bovine, chicken, dog, rat, mouse, turkey, and *Xenopus*. The antibody shows cross reactivity with smooth muscle metavinculin.

Monoclonal Anti-Vinculin may be used for the localization of human and animal vinculin using various immunoassays including immunocytochemical localization by means of immunofluorescence labeling of cultured cells, immunohistological staining of frozen tissue sections, and immunoblotting.

Vinculin is a cytoskeletal protein associated with the cytoplasmic faces of both cell-cell and cell-extracellular matrix adherens-type junctions. It functions as one of several interacting proteins involved in anchoring F-actin to the membrane. The sequences of chicken, nematode and human vinculin have been determined.<sup>1</sup> It has been shown that a sequence of molecular interactions might be involved in the transmembrane assembly of adhesion plaques.<sup>2</sup> In the assembly of

adhesion plaques, the  $\beta$ -subunit of integrin binds to talin. Talin binds to vinculin that interacts with  $\alpha$ -actinin and possibly with itself. Since  $\alpha$ -actinin binds to and cross-links actin filaments, vinculin represents a key element in the transmembrane linkage of the extracellular matrix to the cytoplasmic microfilament system. In muscle, vinculin is localized in the fascia adherens of the intercalated disk (cardiac muscle), myotendinous junctions (skeletal muscle), neuromuscular junctions and the membrane-associated dense bodies of smooth muscle. In many cell types undergoing viral transformation, vinculin becomes redistributed to rosettes or podosomes.

#### Reagents

The product is provided as ascites fluid with 15 mM sodium azide as a preservative.

#### Precautions/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.

#### Product Profile

A minimum antibody titer of 1:400 is determined by indirect immunofluorescent labeling of cultured human fibroblasts.

In order to obtain best results in various techniques and preparations, it is recommended that each individual user determines their optimum working dilution by titration.

**Storage/Stability**

For continuous use, store at 2-8 °C for a maximum of one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

**References**

1. Weller, P., et al., Proc. Natl. Acad. Sci.(USA), **87**, 5667 (1990).
2. Geiger, B., et al., J. Cell Sci. (Suppl), **8**, 251 (1987).  
Kaa 8/03

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.