

PRODUCT DATA SHEET

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Product name(s):	Mouse monoclonal antibody to α-actinin
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Catalogue number:	AG 6070	Batch number:	Z03889	Expiry date:	12 months from receipt
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Introduction:

In normal skeletal muscle α -actinin is associated with sarcomeric Z-bands, and in smooth muscle the protein is located primarily in dense bodies and plaques which are characteristic of that tissue type. Isoforms of α -actinin, and α -actinin-like proteins, have been described from non-muscle tissue, including many adhesion-competent cell lines, intraneuronal Hirano bodies¹ astrocytes^{2,3}, sea urchin eggs⁴ electrocytes of the electric fish *Sternopygus*⁵ and human T-cells⁶ where it is associated with the maintenance of the actin cytoskeleton. α -Actinin has been co-localised with zeugmatin, which is thought to form part of the titin molecule, in dense bodies and focal contacts of stress fibres⁷ and it has been suggested that it is this polypeptide located within the Z-band which anchors the actin cross-linking α -actinin molecules.

Product information:

The AG 6070 antibody to α -actinin (clone CB11) was generated by immunising Balb/c mice with purified chicken gizzard α -actinin. The antibody is an IgG₁.

Application data

This antibody reacts with the 100kDa α -actinin molecule present in mammalian cells. The antibody is suitable for use in Western blotting and immunocytochemical applications at dilutions of 1:100-1:500 or greater under optimised conditions. Optimal dilutions must be determined by experimentation. For immunocytochemistry the use of methanol-fixed or cold acetone-fixed fresh frozen cryostat or cell culture preparations is recommended, although formaldehyde-containing fixatives may also be used. The antibody does not appear to be suitable for use on de-paraffinised tissue as the reactive epitope(s) on α -actinin becomes compromised by the necessary conditions of embedment.

Vial Contents, Storage and use:

See vial label for contents.

Store unopened vial at -20°C until required for use. AVOID REPEATED FREEZE-THAW CYCLES. Aliquot undiluted antibody into smaller volumes prior to freezing if appropriate. Store diluted antibody at 2-4°C and use within 1 month.

References:

1. Galloway PG, Perry G, Gambetti P. Hirano body filaments contain actin and actin-associated proteins. *J Neuropathol Exp. Neurol* **46**:185-199 1987
2. Gragera RR, Muniz E, De Esteban G, Martinez-Rodriguez R. Alpha-actinin-binding protein (alpha-actinin) in rat cerebellar cortex—light and electron microscopic immunolocalization *Acta Histochem Cytochem* **28**:311-317 1995
3. Spher T, Strand M. Molecular mimicry between HIV-1 GP41 and an astrocyte isoform of alpha-actinin. *J Neurovirolog* **1**:381-390 1995
4. Denadai C, Fenichel P, *et al* Characterisation and role of integrins during gametic interaction and egg activation *Zygote* **4**:31-40 1996
5. Patterson JM, Zakon HH. Differential expression of proteins in muscle and electric organ, a muscle derivative *J comp Neurol* **370**:367-376 1996
6. Selliah N, Brooks WH, Roszman TL. Proteolytic cleavage of α -actinin by calpain in T cells stimulated with anti-CD3 monoclonal antibody *J Immunol* **156**:3215-3221 1996
7. Turnacioglu KK, Mittal B *et al* Partial characterisation of zeugmatin indicates that it is part of the Z-band region of titin. *Cell Motil Cytoskel* **34**:108-121 1996