

Datasheet: MCA5776GA

BATCH NUMBER 165576

Description:	MOUSE ANTI HUMAN ACTIN GAMMA
Specificity:	ACTIN GAMMA
Other names:	ACTG1
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	2A3
Isotype:	IgG2b
Quantity:	0.1 mg

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry			▪	
Immunohistology - Frozen			▪	
Immunohistology - Paraffin	▪			
ELISA			▪	
Western Blotting	▪			1/100 - 1/1000
Immunofluorescence	▪			

The PrecisionAb label is reserved for antibodies that meet the defined performance criteria within Bio-Rad's ongoing antibody validation programme. Click [here](#) to learn how we validate our PrecisionAb range. Where this antibody has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the antibody for use in their own system using appropriate negative/positive controls.

Target Species

Human

Species Cross Reactivity

Reacts with: Mouse

Based on sequence similarity, is expected to react with: Mammals

N.B. Antibody reactivity and working conditions may vary between species. Cross reactivity is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for

further information.

Product Form	Purified IgG - liquid
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Preparation	Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant
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Buffer Solution	Phosphate buffered saline
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Preservative Stabilisers	0.09% Sodium Azide (NaN ₃)
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Carrier Free	Yes
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Approx. Protein Concentrations	IgG concentration 1.0 mg/ml
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Immunogen	Synthetic peptide corresponding to the N-terminal nonapeptide of gamma-cytoplasmic actin, coupled to KLH.
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External Database Links	UniProt: P63261 Related reagents Entrez Gene: 71 ACTG1 Related reagents
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Synonyms	ACTB, ACTG
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RRID	AB_2571583
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Specificity	<p>Mouse anti Human actin gamma antibody, clone 2A3 recognizes cytoplasmic actin gamma (known also as ACTG and Gamma Actin), a 41.8 kDa cytoskeletal protein.</p> <p>Actins are highly conserved proteins that are involved in cell motility, structure and integrity and are ubiquitously expressed in all eukaryotic cells. Six different isoforms of actin have been identified (Vandekerckhove and Weber 1978) .</p> <p>Mouse anti Human actin gamma antibody, clone 2A3 is highly specific for actin gamma and does not react with other actin isoforms (Dugina et al. 2009).</p>
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References	<ol style="list-style-type: none">1. Dugina, V. <i>et al.</i> (2009) Beta and gamma-cytoplasmic actins display distinct distribution and functional diversity. J Cell Sci. 122: 2980-8.2. Brockmann, C. <i>et al.</i> (2011) Beta- and gamma-cytoplasmic actins are required for meiosis in mouse oocytes. Biol Reprod. 85: 1025-39.3. Miazza, V. <i>et al.</i> (2011) Sendai virus induced cytoplasmic actin remodeling correlates with efficient virus particle production. Virology. 410: 7-16.4. Baranwal, S. <i>et al.</i> (2012) Nonredundant roles of cytoplasmic β- and γ-actin isoforms in regulation of epithelial apical junctions. Mol Biol Cell. 23: 3542-53.
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5. Dugina, V. *et al.* (2015) Tumor promotion by γ and suppression by β non-muscle actin isoforms. [Oncotarget. 6 \(16\): 14556-71.](#)
6. Simiczyjew, A. *et al.* (2015) Active invadopodia of mesenchymally migrating cancer cells contain both β and γ cytoplasmic actin isoforms. [Exp Cell Res. 339 \(2\): 206-19.](#)
7. Simiczyjew, A. *et al.* (2017) Involvement of β - and γ -actin isoforms in actin cytoskeleton organization and migration abilities of bleb-forming human colon cancer cells. [PLoS One. 12 \(3\): e0173709.](#)
8. Chaponnier, C. & Gabbiani, G. (2016) Monoclonal antibodies against muscle actin isoforms: epitope identification and analysis of isoform expression by immunoblot and immunostaining in normal and regenerating skeletal muscle. [F1000Res. 5: 416.](#)
9. Chen, A. *et al.* (2017) Cytokinesis requires localized β -actin filament production by an actin isoform specific nucleator. [Nat Commun. 8 \(1\): 1530.](#)
10. Dugina, V. *et al.* (2021) Impaired Expression of Cytoplasmic Actins Leads to Chromosomal Instability of MDA-MB-231 Basal-Like Mammary Gland Cancer Cell Line. [Molecules. 26\(8\):2151.](#)
11. Dugina, V. *et al.* (2024) Imbalance between Actin Isoforms Contributes to Tumour Progression in Taxol-Resistant Triple-Negative Breast Cancer Cells. [Int J Mol Sci. 25 \(8\) Apr 20 \[Epub ahead of print\].](#)

Storage	This product is shipped at ambient temperature. It is recommended to aliquot and store at -20°C on receipt. When thawed, aliquot the sample as needed. Keep aliquots at 2-8°C for short term use (up to 4 weeks) and store the remaining aliquots at -20°C. Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended.
Guarantee	12 months from date of despatch
Acknowledgements	PrecisionAb is a trademark of Bio-Rad Laboratories
Health And Safety Information	Material Safety Datasheet documentation #10040 available at: https://www.bio-rad-antibodies.com/SDS/MCA5776GA 10040
Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Rabbit Anti Mouse IgG (STAR12...)	RPE
Goat Anti Mouse IgG IgA IgM (STAR87...)	HRP
Goat Anti Mouse IgG (STAR76...)	RPE
Goat Anti Mouse IgG (STAR70...)	FITC
Goat Anti Mouse IgG (H/L) (STAR117...)	Alk. Phos. , DyLight@488 , DyLight@550 , DyLight@650 , DyLight@680 , DyLight@800 , FITC , HRP
Goat Anti Mouse IgG (STAR77...)	HRP

Goat Anti Mouse IgG (Fc) (STAR120...) [FITC](#), [HRP](#)

Rabbit Anti Mouse IgG (STAR13...) [HRP](#)

Rabbit Anti Mouse IgG (STAR9...) [FITC](#)

Recommended Negative Controls

[MOUSE IgG2b NEGATIVE CONTROL \(MCA691\)](#)

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To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets

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