

## Datasheet: MCA5776GA

<b>Description:</b>	MOUSE ANTI HUMAN ACTIN GAMMA
<b>Specificity:</b>	ACTIN GAMMA
<b>Other names:</b>	ACTG1
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	2A3
<b>Isotype:</b>	IgG2b
<b>Quantity:</b>	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](http://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.

<b>Product Form</b>	Purified IgG - liquid
<b>Preparation</b>	Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant
<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative Stabilisers</b>	0.09% Sodium Azide (NaN <sub>3</sub> )
<b>Carrier Free</b>	Yes
<b>Approx. Protein Concentrations</b>	IgG concentration 1.0 mg/ml
<b>Immunogen</b>	Synthetic peptide corresponding to the N-terminal nonapeptide of gamma-cytoplasmic actin, coupled to KLH.
<b>External Database Links</b>	<p><b>UniProt:</b>  <a href="#">P63261</a>    <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b>  <a href="#">71</a>    ACTG1    <a href="#">Related reagents</a></p>
<b>Synonyms</b>	ACTB, ACTG
<b>RRID</b>	AB_2571583
<b>Specificity</b>	<p><b>Mouse anti Human actin gamma antibody, clone 2A3</b> 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 (<a href="#">Vandekerckhove and Weber 1978</a>) .</p> <p>Mouse anti Human actin gamma antibody, clone 2A3 is highly specific for actin gamma and does not react with other actin isoforms (<a href="#">Dugina et al. 2009</a>).</p>
<b>References</b>	<ol style="list-style-type: none"> <li>Dugina, V. <i>et al.</i> (2009) Beta and gamma-cytoplasmic actins display distinct distribution and functional diversity. <a href="#">J Cell Sci. 122: 2980-8.</a></li> <li>Brockmann, C. <i>et al.</i> (2011) Beta- and gamma-cytoplasmic actins are required for meiosis in mouse oocytes. <a href="#">Biol Reprod. 85: 1025-39.</a></li> <li>Miazza, V. <i>et al.</i> (2011) Sendai virus induced cytoplasmic actin remodeling correlates with efficient virus particle production. <a href="#">Virology. 410: 7-16.</a></li> <li>Baranwal, S. <i>et al.</i> (2012) Nonredundant roles of cytoplasmic <math>\beta</math>- and <math>\gamma</math>-actin isoforms in regulation of epithelial apical junctions. <a href="#">Mol Biol Cell. 23: 3542-53.</a></li> <li>Dugina, V. <i>et al.</i> (2015) Tumor promotion by <math>\gamma</math> and suppression by <math>\beta</math> non-muscle actin isoforms. <a href="#">Oncotarget. 6 (16): 14556-71.</a></li> </ol>

6. Simiczyjew, A. *et al.* (2015) Active invadopodia of mesenchymally migrating cancer cells contain both  $\beta$  and  $\gamma$  cytoplasmic actin isoforms. [Exp Cell Res. 339 \(2\): 206-19.](#)
7. Simiczyjew, A. *et al.* (2017) Involvement of  $\beta$ - and  $\gamma$ -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  $\beta$ -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 \[Epub ahead of print\].](#)

<b>Storage</b>	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.
<b>Guarantee</b>	12 months from date of despatch
<b>Acknowledgements</b>	PrecisionAb is a trademark of Bio-Rad Laboratories
<b>Health And Safety Information</b>	Material Safety Datasheet documentation #10040 available at: <a href="https://www.bio-rad-antibodies.com/SDS/MCA5776GA">https://www.bio-rad-antibodies.com/SDS/MCA5776GA</a> 10040
<b>Regulatory</b>	For research purposes only

## Related Products

### Recommended Secondary Antibodies

Rabbit Anti Mouse IgG (STAR12...)	<a href="#">RPE</a>
Goat Anti Mouse IgG IgA IgM (STAR87...)	<a href="#">HRP</a>
Goat Anti Mouse IgG (STAR76...)	<a href="#">RPE</a>
Goat Anti Mouse IgG (STAR70...)	<a href="#">FITC</a>
Goat Anti Mouse IgG (H/L) (STAR117...)	<a href="#">Alk. Phos.</a> , <a href="#">DyLight®488</a> , <a href="#">DyLight®550</a> , <a href="#">DyLight®650</a> , <a href="#">DyLight®680</a> , <a href="#">DyLight®800</a> , <a href="#">FITC</a> , <a href="#">HRP</a>
Goat Anti Mouse IgG (STAR77...)	<a href="#">HRP</a>
Goat Anti Mouse IgG (Fc) (STAR120...)	<a href="#">FITC</a> , <a href="#">HRP</a>
Rabbit Anti Mouse IgG (STAR13...)	<a href="#">HRP</a>

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

## Recommended Negative Controls

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

<b>North &amp; South America</b>	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: <a href="mailto:antibody_sales_us@bio-rad.com">antibody_sales_us@bio-rad.com</a>	<b>Worldwide</b>	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: <a href="mailto:antibody_sales_uk@bio-rad.com">antibody_sales_uk@bio-rad.com</a>	<b>Europe</b>	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: <a href="mailto:antibody_sales_de@bio-rad.com">antibody_sales_de@bio-rad.com</a>
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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](https://bio-rad-antibodies.com/datasheets)  
'M393640:220113'

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