

## Datasheet: MCA4713GA

**BATCH NUMBER 164684**

<b>Description:</b>	RAT ANTI MOUSE P2X7
<b>Specificity:</b>	P2X7
<b>Other names:</b>	P2RX7
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	Hano43
<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	▪			1/25 - 1/200
Immunohistology - Frozen			▪	
Immunohistology - Paraffin			▪	
ELISA			▪	
Immunoprecipitation			▪	
Western Blotting			▪	
Immunofluorescence	▪			

Where this product 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 product for use in their own system using appropriate negative/positive controls.

<b>Target Species</b>	Mouse
<b>Product Form</b>	Purified IgG - liquid
<b>Preparation</b>	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant
<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative</b>	0.09% Sodium Azide (NaN <sub>3</sub> )

## Stabilisers

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Carrier Free Yes

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Approx. Protein Concentrations IgG concentration 1.0mg/ml

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Immunogen A P2X7-expression construct and a final boost with P2X7-transfected HEK cells.

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## External Database Links

### UniProt:

[Q9Z1M0](#) [Related reagents](#)

### Entrez Gene:

[18439](#) P2rx7 [Related reagents](#)

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Synonyms P2x7

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RRID AB\_10547604

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Fusion Partners Spleen cells from immunised rats were fused with cells of the Sp2/0 myeloma cell line.

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**Specificity** **Rat anti Mouse P2X7 antibody, clone Hano43** recognizes the P2X purinoceptor 7, also known as P2X7. The P2X7 ATP receptor has a distinctive long C-terminal tail with multiple potential protein and lipid interaction motifs and is highly polymorphic. It is a cation selective ion channel that opens up on binding of extracellular ATP. Sustained activation by extracellular ATP results in the formation of a reversible pore in the plasma membrane that is permeable to hydrophilic solutes of up to 900 Da. Once a pore is opened massive upset of cytoplasmic ion homeostasis occurs and the pore stays open as long as it is bound by ATP. Should ATP stimulation continue the cell will become irreversibly damaged and die. P2X7 plays a key role in the maturation and release of IL-1 and other IL-1 family members during inflammation. As such, P2X7 blockers might be useful as anti-inflammatory agents.

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**Flow Cytometry** Use 10ul of the suggested working dilution to label  $1 \times 10^6$  cells in 100ul.

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## References

1. Adriouch, S. *et al.* (2005) Probing the expression and function of the P2X7 purinoceptor with antibodies raised by genetic immunization. [Cell Immunol. 236: 72-7.](#)
2. Adriouch, S. *et al.* (2008) ADP-ribosylation at R125 gates the P2X7 ion channel by presenting a covalent ligand to its nucleotide binding site. [FASEB J. 2008 Mar;22\(3\):861-9.](#)
3. Aswad, F. and Dennert, G. (2006) P2X7 receptor expression levels determine lethal effects of a purine based danger signal in T lymphocytes. [Cell Immunol. 243: 58-65.](#)
4. Adriouch, S. *et al.* (2009) Characterisation of the R276A gain-of-function mutation in the ectodomain of murine P2X7. [Purinergic Signal. 5: 151-61.](#)
5. Kurashima, Y. *et al.* (2012) Extracellular ATP mediates mast cell-dependent intestinal inflammation through P2X7 purinoceptors. [Nat Commun. 3: 1034.](#)
6. Hu, S.J. *et al.* (2015) Upregulation of P2RX7 in Cx3cr1-Deficient Mononuclear Phagocytes Leads to Increased Interleukin-1 $\beta$  Secretion and Photoreceptor

Neurodegeneration. [J Neurosci. 35 \(18\): 6987-96.](#)

7. Barabási, B. *et al.* (2016) Effect of axotomy and 17 $\beta$ -estradiol on P2X7 receptor expression pattern in the hypoglossal nucleus of ovariectomized mice. [Neuroscience. 319: 107-15.](#)

8. Liu, Q. & Kim, C.H. (2019) Control of Tissue-Resident Invariant NKT Cells by Vitamin A Metabolites and P2X7-Mediated Cell Death. [J Immunol. 203 \(5\): 1189-97.](#)

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<b>Further Reading</b>	1. Ferrari, D. <i>et al.</i> (2006) The P2X7 receptor: a key player in IL-1 processing and release. <a href="#">J Immunol. 176: 3877-83.</a> 2. Schwarz, N. <i>et al.</i> (2009) Activation of the P2X7 ion channel by soluble and covalently bound ligands. <a href="#">Purinergic Signal. 5: 139-49.</a>
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<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.
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Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended.

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<b>Guarantee</b>	12 months from date of despatch
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<b>Health And Safety Information</b>	Material Safety Datasheet documentation #10040 available at: <a href="https://www.bio-rad-antibodies.com/SDS/MCA4713GA">https://www.bio-rad-antibodies.com/SDS/MCA4713GA</a> 10040
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<b>Regulatory</b>	For research purposes only
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## Related Products

### Recommended Secondary Antibodies

Goat Anti Rat IgG (STAR69...)	<a href="#">FITC</a>
Goat Anti Rat IgG (STAR73...)	<a href="#">RPE</a>
Goat Anti Rat IgG (MOUSE ADSORBED) (STAR71...)	<a href="#">DyLight®550</a> , <a href="#">DyLight®650</a> , <a href="#">DyLight®800</a>
Rabbit Anti Rat IgG (STAR21...)	<a href="#">HRP</a>
Rabbit Anti Rat IgG (STAR16...)	<a href="#">DyLight®800</a>
Goat Anti Rat IgG (STAR131...)	<a href="#">Alk. Phos.</a> , <a href="#">Biotin</a>
Rabbit Anti Rat IgG (STAR17...)	<a href="#">FITC</a>
Goat Anti Rat IgG (STAR72...)	<a href="#">HRP</a>

<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://www.bio-rad-antibodies.com/datasheets)

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