

## Datasheet: MCA2279GT

<b>Description:</b>	MOUSE ANTI HUMAN ESTROGEN RECEPTOR BETA 2
<b>Specificity:</b>	ESTROGEN RECEPTOR BETA 2
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	57/3
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	50 µg

## 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 (1)	▪			
ELISA			▪	
Immunoprecipitation			▪	
Western Blotting		▪		

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.

**(1) This product requires antigen retrieval using heat treatment prior to staining of paraffin sections. Sodium citrate buffer pH 6.0 is recommended for this purpose. Glycine/ EDTA preparations have also been used with success in some tissues**

<b>Target Species</b>	Human
<b>Product Form</b>	Purified IgG - liquid
<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative Stabilisers</b>	< 0.1% sodium azide (NaN <sub>3</sub> )
<b>Approx. Protein</b>	IgG concentration 1.0mg/ml

## Concentrations

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**Immunogen** Synthetic peptide derived from the C terminus of the human estrogen receptor beta 2 isomer, CGMKMETLLPEATMEQ.

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## External Database

### Links

#### UniProt:

[Q92731](#)

[Related reagents](#)

#### Entrez Gene:

[2100](#)

ESR2

[Related reagents](#)

## Synonyms

ESTRB, NR3A2

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## RRID

AB\_2262592

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## Fusion Partners

Spleen cells from immunized Balb/c mice were fused with cells of the SP2/0 myeloma cell line.

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## Specificity

**Mouse anti Human Estrogen Receptor beta 2 antibody, clone 57/3** recognizes the estrogen receptor beta 2 isoform, expressed in cell nuclei of a range of human tissues including the ovary, placenta, testis and vas deferens. No cross-reactivity is seen with estrogen receptor beta 1 isoform.

The detection of estrogen (ER) and progesterone (PR) receptors using immunohistochemical staining of formal fixed paraffin embedded (FFPE) tissue, has gradually replaced ligand binding assays (LBA), to become the most common method for the determination of the ER/PR status of breast tumors. Approximately 75% to 80% of breast tumors have estrogen and/or progesterone receptors, and the presence of these receptors helps determine both the patient's prognosis and the effectiveness of hormonal therapy

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## Histology Positive Control Tissue

Human testis

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## References

1. Saunders, P.T. *et al.* (2002) ERbeta1 and the ERbeta2 splice variant (ERbetacx/beta2) are expressed in distinct cell populations in the adult human testis. [J Clin Endocrinol Metab. 87 \(6\): 2706-15.](#)
2. Critchley, H.O. *et al.* (2002) Wild-type estrogen receptor (ERbeta1) and the splice variant (ERbetacx/beta2) are both expressed within the human endometrium throughout the normal menstrual cycle. [J Clin Endocrinol Metab. 87 \(11\): 5265-73.](#)
3. Gaskell, T.L. *et al.* (2003) Differential expression of two estrogen receptor beta isoforms in the human fetal testis during the second trimester of pregnancy. [J Clin Endocrinol Metab. 88 \(1\): 424-32.](#)
4. Wong, N.A. *et al.* (2005) ERbeta isoform expression in colorectal carcinoma: an in vivo and in vitro study of clinicopathological and molecular correlates. [J Pathol. 207 \(1\): 53-60.](#)
5. Carpino, A. *et al.* (2007) Detection of aromatase and estrogen receptors (ERalpha, ERbeta1, ERbeta2) in human Leydig cell tumor. [Eur J Endocrinol. 157 \(2\): 239-44.](#)
6. Collins, F. *et al.* (2009) Expression of oestrogen receptors, ERalpha, ERbeta, and

ERbeta variants, in endometrial cancers and evidence that prostaglandin F may play a role in regulating expression of ERalpha. [BMC Cancer. 9: 330.](#)

7. Skliris, G.P. *et al.* (2006) Expression of oestrogen receptor-beta in oestrogen receptor-alpha negative human breast tumours. [Br J Cancer. 95 \(5\): 616-26.](#)
8. Miller, W.R. *et al.* (2006) Oestrogen receptor beta and neoadjuvant therapy with tamoxifen: prediction of response and effects of treatment. [Br J Cancer. 94 \(9\): 1333-8.](#)
9. Rago, V. *et al.* (2009) Identification of ERbeta1 and ERbeta2 in human seminoma, in embryonal carcinoma and in their adjacent intratubular germ cell neoplasia. [Reprod Biol Endocrinol. 7: 56.](#)
10. Ciucci, A. *et al.* (2014) Gender effect in experimental models of human medulloblastoma: does the estrogen receptor  $\beta$  signaling play a role? [PLoS One. 9 \(7\): e101623.](#)
11. Ciucci, A. *et al.* (2015) Mitochondrial estrogen receptor  $\beta$ 2 drives antiapoptotic pathways in advanced serous ovarian cancer. [Hum Pathol. 46 \(8\): 1138-46.](#)
12. Zannoni, G.F. *et al.* (2016) Sexual dimorphism in medulloblastoma features. [Histopathology. 68 \(4\): 541-8.](#)
13. Buttarelli, M. *et al.* (2017) Hormone receptor expression profile of low-grade serous ovarian cancers. [Gynecol Oncol. Feb 20. pii: S0090-8258\(17\)30150-6. \[Epub ahead of print\]](#)
14. Ciucci, A. *et al.* (2018) Estrogen receptor  $\beta$ : Potential target for therapy in adult granulosa cell tumors? [Gynecol Oncol. 150 \(1\): 158-65.](#)
15. Younes, M. *et al.* (2018) Expression of estrogen receptor beta isoforms in pancreatic adenocarcinoma. [Oncotarget. 9 \(102\): 37715-37720.](#)
16. Ciucci, A. *et al.* (2014) Prognostic significance of the estrogen receptor beta (ER $\beta$ ) isoforms ER $\beta$ 1, ER $\beta$ 2, and ER $\beta$ 5 in advanced serous ovarian cancer. [Gynecol Oncol. 132 \(2\): 351-9.](#)
17. Hexiao, T. *et al.* (2021) Knockdown of CENPF inhibits the progression of lung adenocarcinoma mediated by ER $\beta$ 2/5 pathway. [Aging \(Albany NY\). 13 \(2\): 2604-25.](#)
18. Kaya, E.C. *et al.* (2022) Expression of Estrogen Receptor Beta 2 in Laryngeal Cancer and Its Relationship with Lymph Node Metastasis [B-ENT. 11 May \[Epub ahead of print\].](#)

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**Further Reading**

1. Scobie, G.A. *et al.* (2002) Human oestrogen receptors: differential expression of ER alpha and beta and the identification of ER beta variants. [Steroids. 67 \(12\): 985-92.](#)

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**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.

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**Guarantee**

12 months from date of despatch

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**Health And Safety Information**

Material Safety Datasheet documentation #10040 available at: <https://www.bio-rad-antibodies.com/SDS/MCA2279GT>  
10040

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**Regulatory**

For research purposes only

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## Related Products

### Recommended Secondary Antibodies

Goat Anti Mouse IgG (STAR77...)	<a href="#">HRP</a>
Rabbit Anti Mouse IgG (STAR12...)	<a href="#">RPE</a>
Goat Anti Mouse IgG (STAR70...)	<a href="#">FITC</a>
Goat Anti Mouse IgG IgA IgM (STAR87...)	<a href="#">Alk. Phos.</a> , <a href="#">HRP</a>
Rabbit Anti Mouse IgG (STAR9...)	<a href="#">FITC</a>
Goat Anti Mouse IgG (STAR76...)	<a href="#">RPE</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>
Rabbit Anti Mouse IgG (STAR13...)	<a href="#">HRP</a>
Goat Anti Mouse IgG (Fc) (STAR120...)	<a href="#">FITC</a> , <a href="#">HRP</a>

### Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL \(MCA928\)](#)

<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)  
'M415533:230105'

Printed on 25 Mar 2023