

## Datasheet: MCA1683GT

<b>Description:</b>	MOUSE ANTI HUMAN BRCA1 (N-TERMINAL)
<b>Specificity:</b>	BRCA1 (N-TERMINAL)
<b>Other names:</b>	BREAST CANCER TYPE 1 SUSCEPTIBILITY PROTEIN
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	MS13
<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	▪			1/50
ELISA			▪	
Immunoprecipitation	▪			
Western Blotting	▪			0.5ug/ml
Immunofluorescence	▪			1/500

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>	Human
<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>	TRIS-glycine buffered saline, NaCl
<b>Preservative Stabilisers</b>	<0.1% sodium azide (NaN <sub>3</sub> )

<b>Approx. Protein Concentrations</b>	IgG concentration 1.0 mg/ml
<b>Immunogen</b>	Recombinant protein corresponding to the N-Terminal region of human BRCA1
<b>External Database Links</b>	<p><b>UniProt:</b>  <a href="#">P38398</a>    <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b>  <a href="#">672</a> BRCA1    <a href="#">Related reagents</a></p>
<b>Synonyms</b>	RNF53
<b>Fusion Partners</b>	Spleen cells from immunized mice were fused with cells of the mouse NS1 myeloma cell line.
<b>Specificity</b>	<p><b>Mouse anti Human BRCA1 antibody, clone MS13</b> recognizes the human tumor suppressor protein BRCA-1, also known as Breast cancer type 1 susceptibility protein or RING finger protein 53. BRCA1 is a 1863 amino acid, ~220 kDa E3 ubiquitin-protein ligase playing a central role in DNA repair (<a href="#">Tibbetts et al. 2000</a>), expressed in the nucleus during the S/G2 phase of the cell cycle (<a href="#">Durrant and Nickoloff 2005</a>). Normal BRCA-1 acts as a tumor suppressor protein and mutation or dysregulation of BRCA1 may indicate high risk of development of disease, including breast cancer (<a href="#">Budhram-Mahadeo et al. 1999</a>). Mouse anti human BRCA-1, clone MS13 recognizes an epitope within the 304 amino acid N-Terminal (NT) region (<a href="#">Yoshikawa et al. 1999</a>) of human BRCA1.</p> <p>BRCA1 is expressed numerous organs including mammary and ovarian tissues (<a href="#">Miki et al. 1994</a>) . Mutations in the BRCA-1 gene are associated with hereditary breast and ovarian cancers. Secondary cancers such as prostate or melanoma also frequently arise in the latter stages of both male and female breast cancer patients (<a href="#">Benevento et al. 2012</a>), but genetic screening and increased awareness of preventative surgery, can reduce this risk significantly (<a href="#">Scheuer et al. 2002</a>). However, in males pancreatic and prostate cancer appear to be more strongly associated with BRCA2 gene mutations (<a href="#">Gallagher et al. 2010</a>).</p> <p>BRCA1 is a key marker of triple-negative breast cancer (<a href="#">TNBC</a>), a high risk aggressive cancer which makes up about 15% of invasive breast cancers, and lacks the benefit of specific targeted therapy (<a href="#">Duffy et al. 2012</a>). Triple-negative tumors are predominantly basal-like, poorly differentiated and of higher <a href="#">histological grade</a>.</p> <p>Mouse anti human BRCA1 antibody, clone MS13 is suitable for use in the immunohistochemical staining of human tissues (<a href="#">Fraser et al. 2003</a>) and for immunofluorescence in multiple cell lines (<a href="#">Scully et al. 1996</a>).</p>
<b>Histology Positive Control Tissue</b>	Human breast carcinoma
<b>Western Blotting</b>	Mouse anti Human BRCA1 antibody, clone MS13 detects a band of approximately 220

kDa in HeLa nuclear extract. Some cell lysates may also show an uncharacterized band of approximately 65kDa.

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**References**

1. Scully, R. *et al.* (1996) Location of BRCA1 in human breast and ovarian cancer cells. [Science. 272 \(5258\): 123-6.](#)
2. Meng, Z.H. *et al.* (2004) Aberrations of breast cancer susceptibility genes occur early in sporadic breast tumors and in acquisition of breast epithelial immortalization. [Genes Chromosomes Cancer. 41 \(3\): 214-22.](#)
3. Ribeiro-Silva, A. *et al.* (2005) p63 correlates with both BRCA1 and cytokeratin 5 in invasive breast carcinomas: further evidence for the pathogenesis of the basal phenotype of breast cancer. [Histopathology. 47: 458-66](#)
4. Ribeiro-Silva, A. *et al.* (2006) Expression of checkpoint kinase 2 in breast carcinomas: correlation with key regulators of tumor cell proliferation, angiogenesis, and survival. [Histol Histopathol. 21 \(4\): 373-82.](#)
5. Oliveira-Costa, J.P. *et al.* (2010) Significance of topoisomerase III $\beta$  expression in breast ductal carcinomas: strong associations with disease-specific survival and metastasis. [Hum Pathol. 41: 1624-30.](#)
6. Oliveira-Costa, J.P. *et al.* (2014) BRCA1 and  $\gamma$ H2AX as independent prognostic markers in oral squamous cell carcinoma. [Oncoscience. 1 \(5\): 383-91.](#)

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**Further Reading**

1. Fraser, J.A. *et al.* (2003) A role for BRCA1 in sporadic breast cancer. [Br J Cancer. 88: 1263-70.](#)

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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 #10511 available at: <https://www.bio-rad-antibodies.com/SDS/MCA1683GT10511>

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

Goat Anti Mouse IgG (H/L) (STAR117...) [Alk. Phos.](#), [DyLight®488](#), [DyLight®550](#),  
[DyLight®650](#), [DyLight®680](#), [DyLight®800](#),  
[FITC](#), [HRP](#)

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

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

### **Recommended Negative Controls**

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

**North & South** Tel: +1 800 265 7376

**America** Fax: +1 919 878 3751

Email: [antibody\\_sales\\_us@bio-rad.com](mailto:antibody_sales_us@bio-rad.com)

**Worldwide**

Tel: +44 (0)1865 852 700

Fax: +44 (0)1865 852 739

Email: [antibody\\_sales\\_uk@bio-rad.com](mailto:antibody_sales_uk@bio-rad.com)

**Europe**

Tel: +49 (0) 89 8090 95 21

Fax: +49 (0) 89 8090 95 50

Email: [antibody\\_sales\\_de@bio-rad.com](mailto:antibody_sales_de@bio-rad.com)

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