

## Datasheet: MCA1682GT

**BATCH NUMBER 170321**

|                      |                                             |
|----------------------|---------------------------------------------|
| <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>        | MS110                                       |
| <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 (1)   | ▪   |    |                |                    |
| Immunohistology - Paraffin (2) | ▪   |    |                |                    |
| ELISA                          |     |    | ▪              |                    |
| Immunoprecipitation            | ▪   |    |                |                    |
| Western Blotting               | ▪   |    |                | 1.0ug/ml           |
| 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.

(1) **This product requires antigen retrieval using heat treatment prior to staining of frozen sections. Sodium citrate buffer pH 6.0 is recommended for this purpose.** See [Yoshikawa, K.et al.](#) for details.

(2) **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.** See [Yoshikawa, K.et al.](#) for details.

|                       |       |
|-----------------------|-------|
| <b>Target Species</b> | Human |
|-----------------------|-------|

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|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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>       | 0.05% Sodium Azide                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <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><br/> <a href="#">P38398</a>    <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b><br/> <a href="#">672</a> BRCA1    <a href="#">Related reagents</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Synonyms</b>                       | RNF53                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Fusion Partners</b>                | Spleen cells from immunised mice were fused with cells of the mouse NSI myeloma cell line.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Specificity</b>                    | <p><b>Mouse anti Human BRCA1 antibody, clone MS110</b> recognizes an epitope within the <a href="#">304 amino acid N-Terminal (NT) region</a> of human BRCA1, otherwise known as Breast cancer type 1 susceptibility protein, a tumor suppressor gene and major player in DNA damage repair, predominantly expressed in the nucleus during the S/G2 phase of the cell cycle.</p> <p>Along with BRCA2, BRCA1 is a high risk gene which is associated with hereditary breast and ovarian cancers, particularly at a younger age of diagnosis. Women carrying the BRCA1 mutation have a 50-95% chance of developing breast cancer in later life, but genetic screening and increased awareness of preventative surgery, can reduce this risk significantly. Deleterious BRCA1 mutations may also increase the risk of other cancers in both males and females including pancreatic cancer, although in males pancreatic and prostate cancer appear to be more strongly associated with BRCA2 gene mutations.</p> <p>BRCA1 is a key marker of triple-negative breast cancer/TNBC (ER-/PR-/HER2-), a high risk aggressive cancer which makes up about 15% of invasive breast cancers, and which lacks the benefit of specific therapy that targets the three major proteins ER/PR/HER2. Triple-negative tumors are predominantly basal-like, poorly differentiated and of higher <a href="#">histological grade</a>. Younger women have an increased rate of basal or BRCA related TNBC, compared with the higher proportion of apocrine, normal-like and rare subtypes of TNBC, seen in older women.</p> |

Mouse anti human BRCA1 antibody, clone MS110 is suitable for use in both immunohistochemical and immunofluorescence staining of human breast and ovarian tissue, and clone MS110 is a widely recognized antibody for use in cancer studies (Milner *et al.* 2013).

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**Histology Positive Control Tissue**

Breast carcinoma

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**Western Blotting**

Mouse anti Human BRCA1 detects a band of approximately 220kDa in HeLa nuclear extract. A smaller band of 85kDa may also be seen, which may represent post-translational modification.

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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. Yoshikawa, K. *et al.* (1999) Reduction of BRCA1 protein expression in Japanese sporadic breast carcinomas and its frequent loss in BRCA1-associated cases. [Clin Cancer Res. 5 \(6\): 1249-61.](#)
3. Scully, R. *et al.* (1997) Association of BRCA1 with Rad51 in mitotic and meiotic cells. [Cell. 88: 265-75.](#)
4. Chen, J. (2000) Ataxia telangiectasia-related protein is involved in the phosphorylation of BRCA1 following deoxyribonucleic acid damage. [Cancer Res. 60: 5037-9.](#)
5. Fraser, J.A. *et al.* (2003) A role for BRCA1 in sporadic breast cancer. [Br J Cancer. 88: 1263-70.](#)
6. Kleiman, F.E. *et al.* (2005) BRCA1/BARD1 inhibition of mRNA 3' processing involves targeted degradation of RNA polymerase II. [Genes Dev. 19: 1227-37.](#)
7. Pageau, G.J. and Lawrence, J.B. (2006) BRCA1 foci in normal S-phase nuclei are linked to interphase centromeres and replication of pericentric heterochromatin. [J Cell Biol. 175: 693-701.](#)

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**Storage**

Store at +4°C or at -20°C if preferred.

This product should be stored undiluted.

Storage in frost free freezers is not recommended Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.

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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/MCA1682GT>  
10511

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**Regulatory**

For research purposes only

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## Related Products

### Recommended Secondary Antibodies

Goat Anti Mouse IgG (STAR77...) [HRP](#)  
Rabbit Anti Mouse IgG (STAR12...) [RPE](#)  
Goat Anti Mouse IgG IgA IgM (STAR87...) [Alk. Phos.](#), [HRP](#)  
Goat Anti Mouse IgG (STAR76...) [RPE](#)  
Rabbit Anti Mouse IgG (STAR13...) [HRP](#)  
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](#)  
Rabbit Anti Mouse IgG (STAR9...) [FITC](#)  
Goat Anti Mouse IgG (Fc) (STAR120...) [FITC](#), [HRP](#)

## Recommended Negative Controls

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

|                                  |                                                                                                                                         |                  |                                                                                                                                                 |               |                                                                                                                                                     |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
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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)

'M365593:200529'

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