

## Datasheet: MCA1391

<b>Description:</b>	MOUSE ANTI HEPATITIS B X ANTIGEN
<b>Specificity:</b>	HEPATITIS B X ANTIGEN
<b>Other names:</b>	HBxAg
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	3F6-G10
<b>Isotype:</b>	IgG2b
<b>Quantity:</b>	0.25 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	▪			1/100
Immunohistology - Paraffin	▪			1/100
ELISA	▪			
Immunoprecipitation			▪	

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>	Viral
<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 Stabilisers</b>	0.09% sodium azide (NaN <sub>3</sub> ) 1% bovine serum albumin
<b>Approx. Protein</b>	IgG concentration 1.0 mg/ml

## Concentrations

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**Immunogen** HB-Xag-Protein A Fusion protein.

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## External Database Links

**UniProt:**  
[P03165](#)    [Related reagents](#)

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**RRID** AB\_322083

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**Fusion Partners** Spleen cells from immunised BALB/c mice were fused with cells of the [Sp-2/0-Ag14](#) mouse myeloma cell line.

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## Specificity

**Mouse anti Hepatitis B-X antibody, clone 3F6-G10** recognizes the HB-X antigen of hepatitis virus. The Hepatitis B X antigen is a 154 amino acid ~17 kDa multifunctional protein involved in the development of liver cirrhosis and hepatocellular carcinoma ([UniProt: P03165](#)).

Mouse anti Hepatitis B-X antibody, clone 3F6-G10 was produced by immunization of mice with a "HB-X- Protein A" fusion construct and subsequent screening of hybridoma products against a "HB-X-GST" fusion construct ([Marczinovits et al. 1997](#)).

Mouse anti Hepatitis B-X antibody, clone 3F6-G10 has been used successfully for the detection of the hepatitis B X antigen by immunohistochemistry in formalin fixed, paraffin embedded material, also by western blotting against the immunizing and screening fusion proteins ([Pál et al. 2001](#)). Subsequently clone 3F6-G10 has been used as a capture reagent in a sensitive sandwich ELISA and bead based flow assay for the quantitative assessment of HbX antigen in human sera ([Pál et al. 2005](#)).

Fine epitope mapping by phage library screening indicates that the epitope recognized by Mouse anti Hepatitis B-X antibody, clone 3F6-G10 lies between amino acids 88 and 93 of the X antigen, a result subsequently confirmed by peptide ELISA ([Pál et al. 2003](#)).

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## Histology Positive Control Tissue

Liver carcinoma/Hepatitis B infected liver.

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## References

1. Pál, J. *et al.* (2001) Immunohistochemical assessment and prognostic value of hepatitis B virus X protein in chronic hepatitis and primary hepatocellular carcinomas using anti-HBxAg monoclonal antibody. [Pathol Oncol Res. 7: 178-84.](#)
2. Lei, J.H. *et al* (2007) Effects of HBV X gene and arsenic trioxide on the expression of p53 in cultured HepG2 cells. [Chin Med J 120: 2181-4.](#)
3. Pál, J. *et al.* (2003) Determination of the fine epitope specificity of an anti-hepatitis B virus X protein monoclonal antibody using microanalytical and molecular biological methods. [Mol Immunol. 40: 241-6.](#)
4. Pál, J. *et al.* (2005) Sandwich type ELISA and a fluorescent cytometric microbead assay for quantitative determination of hepatitis B virus X antigen level in human sera. [J Immunol Methods. 306: 183-92.](#)
5. Cheng, P. *et al.* (2009) Hepatitis B virus X protein (HBx) induces G2/M arrest and

apoptosis through sustained activation of cyclin B1-CDK1 kinase [Oncol Rep. 22: 1101-7.](#)  
 6. Chun, E. *et al.* (2003) Tumor eradication by hepatitis B virus X antigen-specific CD8+ T cells in xenografted nude mice. [J Immunol. 170: 1183-90.](#)  
 7. Pál, J. *et al.* (2006) Comprehensive regression analysis of hepatitis B virus X antigen level and anti-HBx antibody titer in the sera of patients with HBV infection. [Pathol Oncol Res. 12: 34-40.](#)

**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.

**Guarantee** 12 months from date of despatch

**Health And Safety Information** Material Safety Datasheet documentation #10041 available at: 10041: <https://www.bio-rad-antibodies.com/uploads/MSDS/10041.pdf>

**Regulatory** For research purposes only

## Related Products

### Recommended Secondary Antibodies

Goat Anti Mouse IgG (STAR77...) [HRP](#)  
 Rabbit Anti Mouse IgG (STAR12...) [RPE](#)  
 Goat Anti Mouse IgG (STAR70...) [FITC](#)  
 Goat Anti Mouse IgG IgA IgM (STAR87...) [Alk. Phos.](#), [HRP](#)  
 Rabbit Anti Mouse IgG (STAR9...) [FITC](#)  
 Goat Anti Mouse IgG (STAR76...) [RPE](#)  
 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 (STAR13...) [HRP](#)  
 Goat Anti Mouse IgG (Fc) (STAR120...) [FITC](#), [HRP](#)

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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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