

Datasheet: MCA1281

**BATCH NUMBER 148874**

<b>Description:</b>	MOUSE ANTI HUMAN THYROID STIMULATING HORMONE RECEPTOR
<b>Specificity:</b>	THYROID STIMULATING HORMONE RECEPTOR
<b>Other names:</b>	THYROTROPIN RECEPTOR
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	2C11
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	0.2 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		▪		
Immunohistology - Paraffin	▪			
ELISA	▪			
Immunoprecipitation	▪			5ug/ml - 10ug/ml
Western Blotting	▪			5ug/ml - 10ug/ml
Functional Assays (1)			▪	

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

**(1)Removal of Sodium Azide is recommended prior to use in functional assays.**

**Bio-Rad recommend the use of [EQU003](#) for this purpose.**

<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>	Phosphate buffered saline

<b>Preservative Stabilisers</b>	0.09% Sodium Azide
<b>Carrier Free</b>	Yes
<b>Approx. Protein Concentrations</b>	IgG concentration 1.0 mg/ml
<b>Immunogen</b>	Recombinant Human TSH receptor.
<b>External Database Links</b>	<p><b>UniProt:</b>  <a href="#">P16473</a>    <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b>  <a href="#">7253</a>    TSHR    <a href="#">Related reagents</a></p>
<b>Synonyms</b>	LGR3
<b>RRID</b>	AB_2208261
<b>Fusion Partners</b>	Spleen cells from immunised BALB/c mice were fused with cells of the NS1/Ag4.1 mouse myeloma cell line.
<b>Specificity</b>	<p><b>Mouse anti Human thyroid stimulating hormone receptor antibody, clone 2C11</b> recognizes the human thyroid stimulating hormone receptor (TSHR) otherwise known as the thyrotropin receptor. TSHR is an important molecule in controlling the growth and function of the normal thyroid.</p> <p>Mouse anti Human thyroid stimulating receptor antibody recognises both native and denatured TSH receptor (binding to an epitope at the carboxy terminus between amino acids 354 and 359). It does inhibit binding of TSH. No cross reactivity has been observed with related LH and FSH receptors.</p> <p>Mouse anti Human thyroid stimulating hormone receptor antibody, clone 2C11 recognizes the mutant TSH receptor known as I167N as well as the wild type molecule (<a href="#">Costagliola et al. 1998</a>)</p>
<b>References</b>	<ol style="list-style-type: none"> <li>1. Shepherd PS <i>et al.</i> (1999) Identification of an important thyrotrophin binding site on the human thyrotrophin receptor using monoclonal antibodies. <a href="#">Mol Cell Endocrinol. 149 (1-2): 197-206.</a></li> <li>2. Costagliola, S. <i>et al.</i> (1998) Genetic immunization against the human thyrotropin receptor causes thyroiditis and allows production of monoclonal antibodies recognizing the native receptor. <a href="#">J Immunol. 160 (3): 1458-65.</a></li> <li>3. Haas, A.K. <i>et al.</i> (2011) Mutations that silence constitutive signaling activity in the allosteric ligand-binding site of the thyrotropin receptor. <a href="#">Cell Mol Life Sci. 68: 159-167.</a></li> <li>4. Frenzel, R. <i>et al.</i> (2006) The human thyrotropin receptor is predominantly internalized by beta-arrestin 2. <a href="#">Endocrinology. 147: 3114-22.</a></li> <li>5. Akeno, N. <i>et al.</i> (2011) IFN-<math>\alpha</math> Mediates the Development of Autoimmunity both by</li> </ol>

- Direct Tissue Toxicity and through Immune Cell Recruitment Mechanisms. [J Immunol. 186: 4693-706.](#)
6. Akamizu, T. *et al.* (1999) Characterization of recombinant monoclonal antithyrotropin receptor antibodies (TSHRABs) derived from lymphocytes of patients with Graves' disease: epitope and binding study of two stimulatory TSHRABs. [Endocrinology. 140 \(4\): 1594-601.](#)
  7. Chazenbalk, G.D. *et al.* (2004) Does thyrotropin cleave its cognate receptor? [Endocrinology. 145 \(1\): 4-10.](#)
  8. Chen, C.R. *et al.* (2003) Targeted restoration of cleavage in a noncleaving thyrotropin receptor demonstrates that cleavage is insufficient to enhance ligand-independent activity. [Endocrinology. 144: 1324-30.](#)
  9. Ellerhorst, J.A. *et al.* (2006) Human melanoma cells express functional receptors for thyroid-stimulating hormone. [Endocr Relat Cancer. 13: 1269-77.](#)
  10. Li, Y.S. *et al.* (2004) Transgenic mice producing major histocompatibility complex class II molecules on thyroid cells do not develop apparent autoimmune thyroid diseases. [Endocrinology. 145: 2524-30.](#)
  11. Neumann, S. *et al.* (2011) A new small-molecule antagonist inhibits Graves' disease antibody activation of the TSH receptor. [J Clin Endocrinol Metab. 96: 548-54.](#)
  12. Narumi S *et al.* (2011) Nonclassic TSH resistance: TSHR mutation carriers with discrepantly high thyroidal iodine uptake. [J Clin Endocrinol Metab. 96 \(8\): E1340-5.](#)
  13. Allen, M.D. *et al.* (2011) Occupancy of both sites on the thyrotropin (TSH) receptor dimer is necessary for phosphoinositide signaling. [FASEB J. 25: 3687-94.](#)
  14. Chen, C.R. *et al.* (2001) A full biological response to autoantibodies in Graves' disease requires a disulfide-bonded loop in the thyrotropin receptor N terminus homologous to a laminin epidermal growth factor-like domain. [J Biol Chem. 276 \(18\): 14767-72.](#)
  15. Read, M.L. *et al.* (2011) Proto-oncogene PBF/PTTG1IP regulates thyroid cell growth and represses radioiodide treatment. [Cancer Res. 71 \(19\): 6153-64.](#)
  16. Krause, K. *et al.* (2012) Comparative proteomic analysis to dissect differences in signal transduction in activating TSH receptor mutations in the thyroid. [Int J Biochem Cell Biol. 44 \(2\): 290-301.](#)

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**Storage**

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

This product should be stored undiluted. 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 #10040 available at: <https://www.bio-rad-antibodies.com/SDS/MCA1281>  
10040

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**Regulatory**

For research purposes only

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## Related Products

### Recommended Secondary Antibodies

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

## 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)

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