Product datasheet

Anti-TSH Receptor/TSH-R antibody [A7] ab6044

Overview

Product name: Anti-TSH Receptor/TSH-R antibody [A7]
Description: Mouse monoclonal [A7] to TSH Receptor/TSH-R
Host species: Mouse
Tested applications: Suitable for: Flow Cyt, ICC/IF
Species reactivity: Reacts with: Human
Immunogen: Fusion protein corresponding to Human TSH Receptor/TSH-R aa 402-415 (C terminal).
Epitope: The murine monoclonal antibody A7 is specific for residues 402-415 of the human TSH receptor. This epitope is localized at the extreme carboxyl terminal of the extracellular domain of the TSH receptor, a region that may be masked from the surface of native TSH receptor.

Properties

Form: Liquid
Storage buffer: pH: 7.40
 Constituents: PBS, 0.81% Sodium chloride, 0.16% Sodium phosphate, 0.02% Potassium chloride, 0.04% Potassium phosphate
Purity: Protein A purified
Clonality: Monoclonal
Clone number: A7
Isotype: IgG2b

Applications

Our Abpromise guarantee covers the use of ab6044 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.
### Target

<table>
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<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Flow Cyt</td>
<td></td>
<td>Use 1µg for 10^6 cells. ab170192 - Mouse monoclonal IgG2b, is suitable for use as an isotype control with this antibody.</td>
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<tr>
<td>ICC/IF</td>
<td></td>
<td>Use a concentration of 1 µg/ml.</td>
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### Function
Receptor for thyrothropin. Plays a central role in controlling thyroid cell metabolism. The activity of this receptor is mediated by G proteins which activate adenylate cyclase. Also acts as a receptor for thyrostimulin (GPA2+GPB5).

### Tissue specificity
Expressed in the thyroid.

### Involvement in disease
Defects in TSHR are found in patients affected by hyperthyroidism with different etiologies. Somatic, constitutively activating TSHR mutations and/or constitutively activating G(s)alpha mutations have been identified in toxic thyroid nodules (TTNs) that are the predominant cause of hyperthyroidism in iodine deficient areas. These mutations lead to TSH independent activation of the cAMP cascade resulting in thyroid growth and hormone production. TSHR mutations are found in autonomously functioning thyroid nodules (AFTN), toxic multinodular goiter (TMNG) and hyperfunctioning thyroid adenomas (HTA). TMNG encompasses a spectrum of different clinical entities, ranging from a single hyperfunctioning nodule within an enlarged thyroid, to multiple hyperfunctioning areas scattered throughout the gland. HTA are discrete encapsulated neoplasms characterized by TSH-independent autonomous growth, hypersecretion of thyroid hormones, and TSH suppression. Defects in TSHR are also a cause of thyroid neoplasms (papillary and follicular cancers). Autoantibodies against TSHR are directly responsible for the pathogenesis and hyperthyroidism of Graves disease. Antibody interaction with TSHR results in an uncontrolled receptor stimulation. Hypothyroidism, congenital, non-goitrous, 1 Familial gestational hyperthyroidism Hyperthyroidism, non-autoimmune

### Sequence similarities
Belongs to the G-protein coupled receptor 1 family. FSH/LSH/TSH subfamily. Contains 7 LRR (leucine-rich) repeats.

### Cellular localization
Cell membrane.

### Images
Immunocytochemistry/ Immunofluorescence - Anti-TSH Receptor/TSH-R antibody [A7] (ab6044)

ICC/IF image of ab6044 stained Hek293 cells. The cells were 4% PFA fixed (10 min) and then incubated in 1%BSA / 10% normal Goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab6044, 1µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 Goat anti-Mouse IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.

Overlay histogram showing HeLa cells stained with ab6044 (red line). The cells were fixed with 80% methanol (5 min) and incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab6044, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG2b [PLPV219] (ab91633, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.

Please note that Abcam do not have any data for use of this antibody on non-fixed cells. We welcome any customer feedback.

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