Product datasheet

Anti-Insulin Receptor beta antibody [18-44] ab983

Overview

Product name: Anti-Insulin Receptor beta antibody [18-44]
Description: Mouse monoclonal [18-44] to Insulin Receptor beta
Host species: Mouse
Specificity: This antibody reacts specifically with the beta subunit of the insulin receptor.
Tested applications: Suitable for: Flow Cyt, ICC/IF, Blocking, Functional Studies, IP, WB
Species reactivity: Reacts with: Rabbit, Cow, Human
Immunogen: Human placental insulin receptor.
General notes: This product was changed from ascites to tissue culture supernatant on 19/12/2018. Please note that the dilutions may need to be adjusted accordingly. If you have any questions please do not hesitate to contact our scientific support team.

Properties

Form: Liquid
Storage instructions: Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer: PBS, pH 7.0
Purity: Protein G purified
Purification notes: Purified from TCS
Clonality: Monoclonal
Clone number: 18-44
Isotype: IgG2b

Applications

Our Abpromise guarantee covers the use of ab983 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.
<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
</table>
| Flow Cyt    |           | Use 1µg for 10^6 cells.  
|             | ab170192  | Mouse monoclonal IgG2b, is suitable for use as an isotype control with this antibody. |
| ICC/IF      |           | Use at an assay dependent concentration. PubMed: 18411068 |
| Blocking    |           | Use at an assay dependent concentration. Dilute in PBS or medium which is identical to that used in the assay system. |
| Functional Studies | Use at an essay dependent concentration. Inhibition of insulin binding: IM-9 lymphocytes = 35%,  
|             |           | Adipocytes = 90% Concentration for half maximal effect: Inhibition of insulin binding = 0.2nM, Stimulation of lipogenesis = 0.3nM. This antibody has insulin-like biological activity and therefore activates the receptor kinase. |
| IP          |           | Use at an assay dependent concentration. |
| WB          |           | Use at an assay dependent concentration. |

**Target**

**Relevance**

Insulin receptor mediates the biological activities of insulin by regulating multiple signaling pathways through activation of a series of phosphorylation cascades. The human insulin receptor is a heterotetrameric membrane glycoprotein consisting of disulfide-linked subunits in a β-a-a-β configuration. The β-subunit (95kDa) possesses a single transmembrane domain with tyrosine kinase activity, whereas the α-subunit (135kDa) is completely extracellular. The alpha subunits each contain insulin binding sites and are entirely extracellular in localization. The beta subunits each possess an extracellular domain, a single transmembrane domain, and a cytoplasmic tyrosine kinase domain. Binding of insulin to the alpha subunits induces a conformation change in the receptor which activates the kinase domain, stimulating tyrosine autophosphorylation of the receptor and tyrosine phosphorylation of at least five different insulin receptor substrates designated IRS-1-4, and Shc.

**Cellular localization**

Membrane; Single pass type I membrane protein.

**Images**
Overlay histogram showing HepG2 cells stained with ab983 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab983, 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] (ab91366, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in HepG2 cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.

This image was generated using the ascites version of the product.

ab983, staining Insulin Receptor beta in Human skin fibroblast cells, by Immunocytochemistry/ Immunofluorescence.

Fibroblasts cultured from skin biopsies of a patient with Rabson–Mendenhall syndrome and a healthy control, were fixed in methanol. Samples were fixed with primary antibody and a FITC-labeled donkey polyclonal mouse antibody (ab7057) was used as a secondary antibody. DNA was counterstained with DAPI.

This image was generated using the ascites version of the product.

---

**Our Abpromise to you: Quality guaranteed and expert technical support**

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit https://www.abcam.com/abpromise or contact our technical team.
Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors