

IGF-1R

Concentrated Monoclonal Antibody

Control Number: 902-414-091917

Catalog Number: ACR 414 A.C

Description: 0.1, 1.0 ml, concentrated

Dilution: 1:125-1:250

Diluent: Renoir Red

Intended Use:

For Research Use Only. Not for use in diagnostic procedures.

Summary and Explanation:

The Insulin-like Growth Factor 1 Receptor (IGF-1R) is a transmembrane receptor that is activated by Insulin-like Growth Factor (IGF-1) and by the related growth factor IGF-2. It belongs to the large class of tyrosine kinase receptors. IGF-1 stimulates mitosis and inhibits apoptosis thus enhancing cell survival. The IGF-1 receptor is expressed in all cell types and tissues and is highly over-expressed in most malignant tissues. IGF-1 has been shown to induce hypoxia-inducible factor-1 (HIF-1) mediated vascular endothelial growth factor (VEGF) expression. Other studies have shown IGF-1 to be a possible predictive factor for resistance to treatment with anti-EGFR monoclonal antibodies in K-RAS wild type colorectal cancer. Combined IGF-1 and K-RAS analysis may represent an effective strategy for a better selection of responding colorectal cancer patients.

Principle of Procedure:

Antigen detection in tissues and cells is a multi-step immunohistochemical process. The initial step binds the primary antibody to its specific epitope. After labeling the antigen with a primary antibody, a secondary antibody is added to bind to the primary antibody. An enzyme label is then added to bind to the secondary antibody; this detection of the bound antibody is evidenced by a colorimetric reaction.

Source: Mouse monoclonal

Species Reactivity: Human; others not tested.

Clone: BC10

Isotype: IgG2a

Total Protein Concentration: ~10 mg/ml. Call for lot specific Ig concentration.

Epitope/Antigen: IGF-1R

Positive Control: Colon or breast cancers or lung squamous cell carcinoma.

Cellular Localization: Cell membrane/cytoplasm

Known Applications:

Immunohistochemistry (formalin-fixed paraffin-embedded tissues)

Supplied As: Buffer with protein carrier and preservative

Storage and Stability:

Store at 2°C to 8°C. Do not use after expiration date printed on vial. If reagents are stored under conditions other than those specified in the package insert, they must be verified by the user. Diluted reagents should be used promptly; any remaining reagent should be stored at 2°C to 8°C.

Staining Protocol Recommendations:

Peroxide Block:

Block for 5 minutes with Biocare's Peroxidized 1.

Pretreatment Solution (recommended): Reveal or Diva

Pretreatment Protocol:

Heat Retrieval Method:

Retrieve sections under pressure using Biocare's Decloaking Chamber, followed by a wash in distilled water; alternatively, steam tissue sections for 45-60 minutes. Allow solution to cool for 10-20 minutes then wash in distilled water.

Protein Block:

Optional: Incubate for 10-15 minutes at RT with Biocare's Background Sniper.

Primary Antibody: Incubate for 30 minutes at RT.

Probe: Incubate for 10 minutes at RT with a probe.

Polymer: Incubate for 10 minutes at RT with a polymer.

Chromogen:

Incubate for 5 minutes at RT when using Biocare's DAB. - OR - Incubate for 10-20 minutes at RT when using Biocare's Vulcan Fast Red.

Staining Protocol Recommendations Cont'd:

Counterstain:

Counterstain with hematoxylin. Rinse with deionized water. Apply Tacha's Bluing Solution for 1 minute. Rinse with deionized water.

Technical Note:

This antibody has been standardized with Biocare's MACH 4 detection system. It can also be used on an automated staining system and with other Biocare polymer detection kits. Use TBS buffer for washing steps.

Limitations:

This product is provided for Research Use Only (RUO) and is not for use in diagnostic procedures. Suitability for specific applications may vary and it is the responsibility of the end user to determine the appropriate application for its use.

Precautions:

1. This antibody contains less than 0.1% sodium azide. Concentrations less than 0.1% are not reportable hazardous materials according to U.S. 29 CFR 1910.1200, OSHA Hazard communication and EC Directive 91/155/EC. Sodium azide (NaN₃) used as a preservative is toxic if ingested. Sodium azide may react with lead and copper plumbing to form highly explosive metal azides. Upon disposal, flush with large volumes of water to prevent azide build-up in plumbing. (Center for Disease Control, 1976, National Institute of Occupational Safety and Health, 1976) (7)
2. Specimens, before and after fixation, and all materials exposed to them should be handled as if capable of transmitting infection and disposed of with proper precautions. Never pipette reagents by mouth and avoid contacting the skin and mucous membranes with reagents and specimens. If reagents or specimens come in contact with sensitive areas, wash with copious amounts of water. (8)
3. Microbial contamination of reagents may result in an increase in nonspecific staining.
4. Incubation times or temperatures other than those specified may give erroneous results. The user must validate any such change.
5. The SDS is available upon request and is located at <http://biocare.net>.
6. Do not use reagent after the expiration date printed on the vial.

Technical Support:

Contact Biocare's Technical Support at 1-800-542-2002 for questions regarding this product.

References:

1. Appleby PN, *et al.* (Endogenous Hormones and Breast Cancer Collaborative Group). Insulin-like growth factor 1 (IGF1), IGF binding protein 3 (IGFBP3), and breast cancer risk: pooled individual data analysis of 17 prospective studies. *Lancet Oncol.* 2010;11(6):530-42. Epub 2010 May 14.
2. Scartozzi M, *et al.* Insulin-like growth factor 1 expression correlates with clinical outcome in K-RAS wild type colorectal cancer patients treated with cetuximab and irinotecan. *Int J Cancer.* 2010 Jan 22. [Epub ahead of print].
3. Wernli KJ, *et al.* Body size, IGF and growth hormone polymorphisms, and colorectal adenomas and hyperplastic polyps. *Growth Horm IGF Res.* 2010 (May 24).
4. Ludovini V. High coexpression of both insulin-like growth factor receptor-1 (IGFR-1) and epidermal growth factor receptor (EGFR) is associated with shorter disease-free survival in resected non-small-cell lung cancer patients. *Ann Oncol.* 2009 May;20(5):842-9. Epub 2009 Jan 19.
5. Creighton CJ, *et al.* Insulin-like growth factor-I activates gene transcription programs strongly associated with poor breast cancer prognosis. *J Clin Oncol.* 2008 Sep 1;26(25):4078-85.
6. Fukuda R, *et al.* Insulin-like growth factor 1 induces hypoxia-inducible factor 1-mediated vascular endothelial growth factor expression, which is dependent on MAP kinase and phosphatidylinositol 3-kinase signaling in colon cancer cells. *J Biol Chem.* 2002 Oct 11;277(41):38205-11. Epub 2002 Jul 30.
7. Center for Disease Control Manual. Guide: Safety Management, NO. CDC-22, Atlanta, GA. April 30, 1976 "Decontamination of Laboratory Sink Drains to Remove Azide Salts."
8. Clinical and Laboratory Standards Institute (CLSI). Protection of Laboratory workers from occupationally Acquired Infections; Approved guideline-Third Edition CLSI document M29-A3 Wayne, PA 2005.