

Anti-hEGFR-hIgG2

Monoclonal human IgG2 antibody against human EGFR

Catalog # hegfr-mab2

<http://www.invivogen.com/anti-hegfr-higg2>

For research use only, not for diagnostic or therapeutic use

Version # 17D25-MM

PRODUCT INFORMATION

Content: 100 µg anti-hEGFR-hIgG2, purified antibody, provided azide-free and lyophilized

Specificity: Epidermal growth factor receptor (EGFR)

Isotype: Human IgG2

Source: CHO cells

Formulation: 0.2 µm filtered solution in a sodium phosphate buffer with glycine, saccharose and stabilizing agents.

Antibody resuspension

Add 1 ml of sterile water to obtain a concentration of 0.1 mg/ml.

Storage

- Product is shipped at room temperature. Store lyophilized antibody at -20°C. Lyophilized product is stable for 1 year.
- Reconstituted antibody is stable for 1 month when stored at 4°C and for 1 year when aliquoted and stored at -20°C. Avoid repeated freeze-thaw cycles.

Quality control

- Binding of anti-hEGFR-hIgG2 to human EGFR has been tested using flow cytometry.
- The complete sequence of this antibody has been verified.
- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.

DESCRIPTION

Anti-hEGFR-hIgG2 features the constant region of the human IgG2 isotype and the variable region of cetuximab. Cetuximab is a chimeric human/mouse IgG1 monoclonal antibody that targets EGFR, a cell surface receptor overexpressed in many types of cancer. EGFR is activated by binding specific ligands, including epidermal growth factor and transforming growth factor- α . Activation of EGFR promotes cell proliferation and survival, as well as angiogenesis, leading to tumor growth and metastasis. Binding of cetuximab to EGFR blocks ligand-receptor binding and induces receptor internalization and subsequent degradation. Consequently, cetuximab blocks downstream pathways which regulate cell growth and angiogenesis. In addition, cetuximab induces cell death through antibody-dependent cell-mediated cytotoxicity (ADCC)^{1,2}. Cetuximab has been approved by the FDA for the treatment of metastatic colorectal cancer and metastatic squamous cell carcinoma of the head and neck³.

Anti-hEGFR-hIgG2 was generated by recombinant DNA technology. It has been produced in CHO cells and purified by affinity chromatography with protein G.

1. Kurai J. et al., 2007. Antibody-dependent cellular cytotoxicity mediated by cetuximab against lung cancer cell lines. Clin Cancer Res. 3(5):1552-61. 2. Kimura H. et al., 2007. Antibody-dependent cellular cytotoxicity of cetuximab against tumor cells with wild-type or mutant epidermal growth factor receptor. Cancer Sci. 98(8):1275-80. 3. Vincenzi B. et al., 2010. Cetuximab: from bench to bedside. Curr Cancer Drug Targets. 10(1):80-95.

ANTIBODY ISOTYPE FAMILY

For your research, InvivoGen provides an anti-hEGFR isotype family. This family consists of monoclonal antibodies comprising the variable region of cetuximab, and the constant region of different human isotypes; IgG1, IgG2, IgG4 and IgA2. The isotypes differ in their functional locations and effector functions, such as complement-dependent cytotoxicity (CDC) and antibody-dependent cell-mediated cytotoxicity (ADCC), as presented in the table below.

| Isotype | Description |
|--------------------|--|
| Human IgG1 | Most abundant IgG present in serum High CDC, high ADCC |
| Human IgG2 | Second most common IgG present in serum Low CDC, low ADCC |
| Human IgG4 | Least common IgG present in serum No CDC, low ADCC |
| Human IgG4 (S228P) | Designed to prevent exchange of IgG4 molecules No CDC, low ADCC |
| Human IgA2 | Major class in secretions, oligomeric forms, highly resistant to enzymatic degradation. No CDC, low ADCC |

RELATED PRODUCTS

| Product | Catalog Code |
|--|--------------|
| Anti- β -Gal-hIgG2 (isotype control) | bgal-mab2 |
| Anti-hEGFR-hIgG1 (Cetuximab) | hegfr-mab1 |
| Anti-hEGFR-hIgG1 fut (non-fucosylated) | hegfr-mab13 |
| Anti-hEGFR-hIgG1NQ (non-glycosylated) | hegfr-mab12 |
| Anti-hEGFR-hIgG4 (S228P) | hegfr-mab14 |
| Anti-hEGFR-hIgA2 | hegfr-mab7 |

Other antibody isotype families are available, such as Anti-hCD20, Anti-hPD1 and Anti- β -Gal(control).

For more information visit www.invivogen.com/antibody-isotypes

TECHNICAL SUPPORT

InvivoGen USA (Toll-Free): 888-457-5873

InvivoGen USA (International): +1 (858) 457-5873

InvivoGen Europe: +33 (0) 5-62-71-69-39

InvivoGen Hong Kong: +852 3622-3480

E-mail: info@invivogen.com