Anti-hVEGF-hIgG4 (S228P)

Monoclonal human IgG4 antibody against human VEGF

Catalog # hvegf-mab14

For research use only, not for diagnostic or therapeutic use

Version # 17C02-MM

PRODUCT INFORMATION

Content: 100 µg anti-hVEGF-hIgG4 (S228P), purified antibody, provided azide-free and lyophilized
Specificity: Vascular endothelial growth factor (VEGF)
Isotype: Human IgG4 (S228P)
Light chain type: kappa
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 at least 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-hVEGF-hIgG4 (S228P) to human VEGF has been tested using indirect ELISA.
- 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-hVEGF-hIgG4 (S228P) features the constant region of the human IgG4 (S228P) isotype and the variable region of bevacizumab. Bevacizumab is a humanized IgG1 monoclonal antibody that targets VEGF, a signaling protein that promotes the growth of new blood vessels. In many cancers VEGF is overexpressed, thereby promoting tumor growth and angiogenesis. The overexpression of VEGF can also lead to vascular disease, particularly in the retina[1]. Bevacizumab neutralizes VEGF and blocks its signal transduction through the VEGF receptors[2, 3]. Consequently, bevacizumab blocks downstream pathways which regulate cell growth and angiogenesis. Bevacizumab displays no antibody-dependent cell-mediated cytotoxicity (ADCC)[4]. Bevacizumab has been approved by the FDA for the treatment of certains types of brain, colorectal, lung, kidney, and ovarian cancers.

Anti-hVEGF4-hIgG4 (S228P) contains an engineered hinge region mutation (S228P) designed to prevent exchange of IgG4 molecules.

Anti-hVEGF-hIgG4 (S228P) was generated by recombinant DNA technology. It has been produced in CHO cells and purified by affinity chromatography with protein G.

1. Ablonczy Z. et al., 2014. Progressive dysfunction of the retinal pigment epithelium and retina due to increased VEGF-A levels. FASEB J. 28:2369-79. **2. Papadopoulos N. et al., 2012.** Binding and neutralization of vascular endothelial growth factor (VEGF) and related ligands by VEGF Trap, ranibizumab and bevacizumab. Angiogenesis. 15(2):171-85. **3. Ferrara N. et al., 2004.** Discovery and development of bevacizumab, an anti-VEGF antibody for treating cancer. Nat Rev Drug Discov. 3(5):391-400. **4. Damiano V. et al., 2007.** TLR9 agonist acts by different mechanisms synergizing with bevacizumab in sensitive and cetuximab-resistant colon cancer xenografts. PNAS. 104(30):12468-73.

ANTIBODY ISOTYPE COLLECTION

For your research, InvivoGen provides an anti-hVEGF isotype family. This isotype family consists of monoclonal antibodies comprising the variable region of bevacizumab, and the constant region of three different human isotypes; IgG1, 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.

Name	Description
Human IgG1	Most abundant IgG present in serum High CDC, high ADCC
Human IgG4	Least common IgG present in serum No CDC, low ADCC
Human IgA2	Major class in secretions, oligomeric forms, highly resitant to enzymatic degradation. No CDC, low ADCC

RELATED PRODUCTS

Product	Catalog Code
Anti-hVEGF-hIgA2	hvegf-mab7
Anti-hVEGF-hIgG1	hvegf-mab1

Other antibody isotype families are available, such as Anti-hCD20, Anti-hPD1 and Anti-βGal (control).
For more information visit www.invivogen.com/antibody-isotypes.

TECHNICAL SUPPORT
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