Human Epiregulin Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1195

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Epiregulin in direct ELISAs and Western blots. In these formats, approximately 50% cross-reactivity with recombinant mouse Epiregulin is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human Epiregulin (R&D Systems, Catalog # 1195-EP) Val63-Leu108 Accession # O14944
Endotoxin Level	<0.1 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

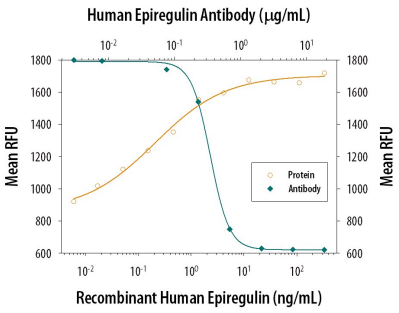
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Human Epiregulin (Catalog # 1195-EP)
Immunohistochemistry	5-15 µg/mL	See Below
Neutralization	Measured by its ability to neutralize Epiregulin-induced proliferation in the Balb/3T3 mouse embryonic fibroblast cell line. The Neutralization Dose (ND_{50}) is typically 0.3-1.5 µg/mL in the presence of 5 ng/mL Recombinant Human Epiregulin.	

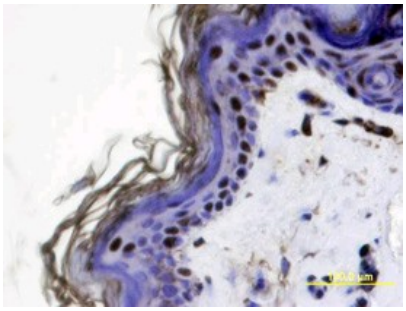
DATA

Neutralization



Cell Proliferation Induced by Epiregulin and Neutralization by Human Epiregulin Antibody. Recombinant Human Epiregulin (Catalog # 1195-EP) stimulates proliferation in the Balb/3T3 mouse embryonic fibroblast cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Human Epiregulin (5 ng/mL) is neutralized (green line) by increasing concentrations of Human Epiregulin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1195). The ND_{50} is typically 0.3-1.5 µg/mL.

Immunohistochemistry



Epiregulin in Human Skin. Epiregulin was detected in immersion fixed paraffin-embedded sections of human skin using Human Epiregulin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1195) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month from date of receipt, 2 to 8 °C, reconstituted. ● 6 months from date of receipt, -20 to -70 °C, reconstituted.

BACKGROUND

Epiregulin is a member of the EGF family of growth factors which includes, among others, epidermal growth factor (EGF), transforming growth factor (TGF)-alpha, amphiregulin (ARG), HB (heparin-binding)-EGF, betacellulin, and the various heregulins. All EGF family members are synthesized as transmembrane precursors and are converted to soluble forms by proteolytic cleavage. Epiregulin was originally purified from the mouse fibroblast-derived tumor cell line NIH3T3/T7. The human epiregulin cDNA encodes a 169 amino acid (aa) residues transmembrane precursor with a 29 aa signal peptide, a 21 aa transmembrane domain and a 21 aa cytoplasmic domain. The putative soluble mature Epiregulin comprising the EGF-like domain (aa residues 64-104) is formed by proteolytic removal of the propeptide regions. There is 85% aa sequence homology between human and mouse epiregulins. Epiregulin is expressed primarily in the placenta and macrophages. High level expression has also been detected in various carcinomas. Epiregulin specifically binds EGF R (ErbB1) and ErbB4 but not ErbB2 and ErbB3. It activates the homodimers of both ErbB1 and ErbB4. In addition, epiregulin can also activate all possible heteromeric combinations of the four ErbB family members. Epiregulin stimulates the proliferation of fibroblasts, smooth muscle cells and hepatocytes. It has been shown to be an autocrine growth factor for epidermal keratinocytes as well as mesangial cells. Epiregulin has also been shown to inhibit growth of several epithelial tumor cells. In addition, Epiregulin has been implicated in the implantation process during pregnancy.