

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Epiregulin in direct ELISAs and Western blots. In direct ELISAs, approximately 40% cross-reactivity with recombinant human Epiregulin is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant mouse Epiregulin Val56-Leu101 Accession # Q61521
Endotoxin Level	<0.10 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.

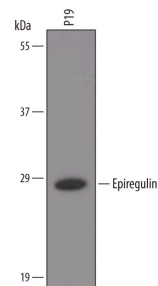
APPLICATIONS

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	1 µg/mL	See Below
Neutralization	Measured by its ability to neutralize Epiregulin-induced proliferation in the Balb/3T3 mouse embryonic fibroblast cell line. Rubin, J.S. <i>et al.</i> (1991) PNAS 88:415 . The Neutralization Dose (ND ₅₀) is typically 0.3-1 µg/mL in the presence of 3 ng/mL Recombinant Mouse Epiregulin.	

DATA

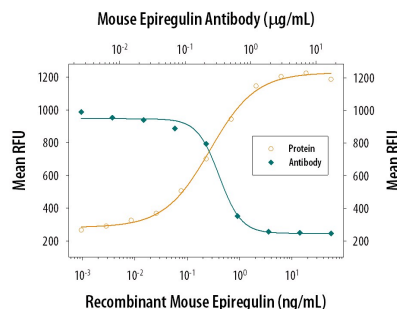
Western Blot



Detection of Mouse Epiregulin by Western Blot.

Western blot shows lysates of P19 mouse embryonal carcinoma cell line. PVDF Membrane was probed with 1 µg/mL of Goat Anti-Mouse Epiregulin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1068) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF019). A specific band was detected for Epiregulin at approximately 28 kDa (as indicated). This experiment was conducted under reducing conditions and using [Immunoblot Buffer Group 8](#).

Neutralization



Cell Proliferation Induced by Epiregulin and Neutralization by Mouse Epiregulin Antibody.

Recombinant Mouse Epiregulin (Catalog # [1068-EP](#)) stimulates proliferation in the Balb/3T3 mouse embryonic fibroblast cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Mouse Epiregulin (3 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Mouse Epiregulin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1068). The ND₅₀ is typically 0.3-1 µg/mL.

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. <ul style="list-style-type: none"> ● 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. They are all synthesized as transmembrane precursors and converted to soluble forms by proteolytic cleavage. Epiregulin was originally purified from the mouse fibroblast-derived tumor cell line NIH3T3/T7 (1). The mouse Epiregulin cDNA encodes for a transmembrane precursor of 162 amino acid in length, with the mature soluble form comprising residues 56-101 (2). The mode of action of Epiregulin is similar to other EGF family members in that it binds to and activates the tyrosine-kinase, ErbB-family receptors (ErbB1 through B4) (3). Although it stimulates phosphorylation of all four receptors, it appears to interact primarily with ErbB1 and ErbB4. Epiregulin has the broadest specificity of the EGF-like ligands but seems to preferentially activate heterodimeric receptor complexes (4). Epiregulin exhibits a variety of biological effects. It was originally shown to both inhibit growth of several epithelial tumor cells and stimulate growth of fibroblasts and other types of cells (1). Epiregulin expression is upregulated in a number of carcinoma cell lines. It has also been shown to be an autocrine growth factor in human epidermal keratinocytes (5). Epiregulin has also been shown to play a role in the early steps of pregnancy, regulating attachment of the blastocyst to the uterine epithelium during the implantation process (6).

References:

1. Toyoda, H. *et al.* (1995) J. Biol. Chem. **270**:7495.
2. Toyoda, H. *et al.* (1995) FEBS Lett. **377**:403.
3. Komurasaki, T. *et al.* (1997) Oncogene **15**:2841.
4. Shelly, M. *et al.* (1998) J. Biol. Chem. **273**:10496.
5. Shirakata, Y. *et al.* (2000) J. Biol. Chem. **275**:5748.
6. Das, S.K. *et al.* (1997) Dev. Biol. **190**:178.