Human Amphiregulin Antibody

Monoclonal Mouse IgG_1 Clone # 31221

Catalog Number: MAB262

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Amphiregulin (AR) in Western blots. In this format, this antibody shows less than 5% cross-reactivity with recombinant human HB-EGF.
Source	Monoclonal Mouse IgG_1 Clone # 31221
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant human Amphiregulin
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. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

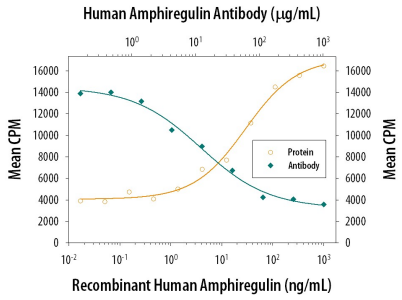
APPLICATIONS

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	Recombinant Human Amphiregulin (Catalog # 262-AR) under non-reducing conditions only
Human Amphiregulin Sandwich Immunoassay		**Reagent**
ELISA Capture	2-8 µg/mL	Human Amphiregulin Antibody (Catalog # MAB262)
ELISA Detection	0.1-0.4 µg/mL	Human Amphiregulin Biotinylated Antibody (Catalog # BAF262)
Standard		Recombinant Human Amphiregulin (Catalog # 262-AR)
Neutralization	Measured by its ability to neutralize Amphiregulin-induced proliferation in the Balb/3T3 mouse embryonic fibroblast cell line. The Neutralization Dose (ND_{50}) is typically 5-15 µg/mL in the presence of 50 ng/mL Recombinant Human Amphiregulin.	

DATA

Neutralization



Cell Proliferation Induced by Amphiregulin and Neutralization by Human Amphiregulin Antibody. Recombinant Human Amphiregulin (Catalog # 262-AR) stimulates proliferation in the Balb/3T3 mouse embryonic fibroblast cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Human Amphiregulin (50 ng/mL) is neutralized (green line) by increasing concentrations of Human Amphiregulin Monoclonal Antibody (Catalog # MAB262). The ND_{50} is typically 5-15 µg/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
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, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

Amphiregulin (AR) is a member of the EGF family of cytokines which is comprised of at least ten proteins including EGF, TGF-α, HB-EGF, and the various heregulins. All of these cytokines are synthesized as transmembrane precursors and are characterized by the presence of one or several EGF structural units in their extracellular domain. The soluble forms of these cytokines are released by proteolytic cleavage. Amphiregulin was originally isolated from the conditioned media of a PMA-treated MCF-7 human breast carcinoma cell line. The AR cDNA encodes a 252 amino acid (aa) residue transmembrane precursor. Multiple forms of native AR containing either 78 or 84 aa residues and both N- and O-linked oligosaccharides have been found. Amphiregulin mRNA expression can be detected in numerous carcinoma cell lines and the epithelial cells of various human tissues including colon, stomach, breast, ovary, kidney, etc.

Human AR stimulates the proliferation of various human and mouse keratinocytes, mammary epithelial cells and some fibroblasts. AR is also a growth inhibitor for various tumor cell lines. In certain colon carcinoma cell lines, AR has been shown to be an autocrine growth factor. Amphiregulin can bind to the EGF receptor. It has been suggested that in certain cell types, AR bioactivity may be mediated through the EGF receptor. The 98 aa residue long form of recombinant amphiregulin has shown to be approximately 5-10 fold more active than the 78 aa residue form of recombinant AR in an *in vitro* proliferation assay using Balb/3T3 fibroblasts.

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