# Mouse EGF Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF2028

## DESCRIPTION

| | |
|---|---|
| **Species Reactivity** | Mouse |
| **Specificity** | Detects mouse EGF in direct ELISAs and Western blots. In direct ELISAs, approximately 30% cross-reactivity with recombinant human EGF is observed. |
| **Source** | Polyclonal Goat IgG |
| **Purification** | Antigen Affinity-purified |
| **Immunogen** | *E. coli*-derived recombinant mouse EGF |
| **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.<br>*Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS. |

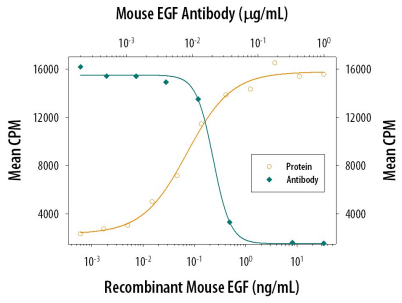
## APPLICATIONS

**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** | 0.1 µg/mL | Recombinant Mouse EGF (Catalog # 2028-EG) |
| **Immunohistochemistry** | 5-15 µg/mL | See Below |
| **Neutralization** | Measured by its ability to neutralize EGF-induced proliferation in the Balb/3T3 mouse embryonic fibroblast cell line. The Neutralization Dose ($ND_{50}$) is typically 0.02-0.06 µg/mL in the presence of 0.3 ng/mL Recombinant Mouse EGF. | |

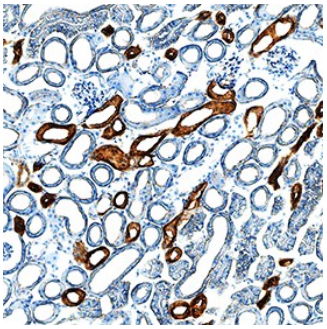
## DATA

### Neutralization




**Cell Proliferation Induced by EGF and Neutralization by Mouse EGF Antibody.** Recombinant Mouse EGF (Catalog # 2028-EG) stimulates proliferation in the Balb/3T3 mouse embryonic fibroblast cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Mouse EGF (0.3 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Mouse EGF Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2028). The $ND_{50}$ is typically 0.02-0.06 µg/mL.

### Immunohistochemistry



**EGF in Mouse Kidney.** EGF was detected in perfusion fixed frozen sections of mouse kidney using Goat Anti-Mouse EGF Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2028) at 5 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). Specific staining was localized to cytoplasm in convoluted tubules. View our protocol for Chromogenic IHC Staining of Frozen 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.<br>*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.**<br>● 12 months from date of receipt, -20 to -70 °C as supplied.<br>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.<br>● 6 months, -20 to -70 °C under sterile conditions after reconstitution. |



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## BACKGROUND

Epidermal growth factor (EGF) is the founding member of the EGF family that also includes TGF-α, amphiregulin (AR), betacellulin (BTC), epiregulin (EPR), heparin-binding EGF-like growth factor (HB-EGF), epigen, and the neuregulins (NRG)-1 through -6 (1). Members of the EGF family share a structural motif, the EGF-like domain, which is characterized by three intramolecular disulfide bonds that are formed by six similarly spaced conserved cysteine residues (2). All EGF family members are synthesized as type I transmembrane precursor proteins that may contain several EGF domains in the extracellular region. The mature proteins are released from the cell surface by regulated proteolysis (1). The 1217 amino acid (aa) mouse EGF precursor contains nine EGF domains and nine LDLR class B repeats. The mature protein consists of 53 aa and is generated by proteolytic excision of the EGF domain proximal to the transmembrane region (3). Mature mouse EGF shares 70% and 77% aa sequence identity with mature human and rat EGF. EGF is present in various body fluids, including blood, milk, urine, saliva, seminal fluid, pancreatic juice, cerebrospinal fluid, and amniotic fluid (4). Four ErbB (HER) family receptor tyrosine kinases including EGFR/ErbB1, ErbB2, ErbB3 and ErbB4, mediate responses to EGF family members (5). These receptors undergo a complex pattern of ligand induced homo- or hetero-dimerization to transduce EGF family signals (6, 7). EGF binds ErbB1 and depending on the context, induces the formation of homodimers or heterodimers containing ErbB2. Dimerization results in autophosphorylation of the receptor at specific tyrosine residues to create docking sites for a variety of signaling molecules (5, 8). Biological activities ascribed to EGF include epithelial development, angiogenesis, inhibition of gastric acid secretion, fibroblast proliferation, and colony formation of epidermal cells in culture.

**References:**

1. Harris, R.C. *et al.* (2003) Exp. Cell Res. **284**:2.
2. Carpenter, G. and Cohen, S. (1990) J. Biol. Chem. **265**:7709.
3. Gray, A. *et al.* (1983) Nature **303**:722.
4. Carpenter, G. and Zendegui, J.G. (1986) Exp. Cell Res. **164**:1.
5. Jorissen, R.N. *et al.* (2003) Exp. Cell Res. **284**:31.
6. Gamett, D.C. *et al.* (1997) J. Biol. Chem. **272**:12052.
7. Qian, X. *et al.* (1994) Proc. Natl. Acad. Sci. **91**:1500.
8. Qian, X. *et al.* (1999) J. Biol. Chem. **274**:574.



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