

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Pro EGF in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant mouse (rm) Amphiregulin, rmEpigen, rmEpiregulin, rmEGF, rmMFG-E8, recombinant human (rh) EGF, rhHB-EGF, rhHRG alpha, rhHRG beta, or recom
Source	Monoclonal Rat IgG _{2A} Clone # 463004
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse EGF Trp29-Arg1029 Accession # P01132
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.

Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

EGF is the prototypic member of a family of growth factors that also includes amphiregulin, betacellulin, epigen, epiregulin, HB-EGF, neuregulins-1 through -6, and TGF-α (1). These proteins contain EGF-like domains with three intramolecular disulfide bonds between conserved cysteines (2). EGF family members are synthesized as transmembrane preproteins with varying numbers of EGF-like domains (3). The extracellular region of mouse pro-EGF contains eight LDL R class B repeats and nine EGF-like domains (4). Mature EGF is derived from the juxtamembrane EGF-like domain. EGF binds ErbB1 and induces the formation of homodimers or heterodimers containing ErbB2 (5). Pro-EGF is most highly expressed in the submaxillary gland and kidney (6). In the kidney, the 190 kDa preproprotein is cleaved by membrane-associated serine proteases, liberating the extracellular region which is subsequently processed into smaller fragments including the 6 kDa mature EGF (7-10). The various cleavage products produced in the kidney also are present in urine (9-11). In the submaxillary gland, however, nearly all EGF is processed intracellularly and stored in secretory vesicles (6, 12). The soluble precursor binds ErbB1 and induces cellular proliferation, although it is significantly less potent than mature EGF (8, 9). In human thyroid carcinoma cells, a splice variant of pro-EGF with a deletion in the cytoplasmic domain induces increased proliferative activity relative to wild-type pro-EGF (13). Within the extracellular region, mouse pro-EGF shares 79% amino acid sequence identity with rat pro-EGF and 67%-69% with human, canine, feline, and porcine pro-EGF.

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