

# GAREM (S-20): sc-84821

## BACKGROUND

Mitogen-activated protein (MAP) kinases are a large class of proteins involved in signal transduction pathways that are activated by a range of stimuli and mediate a number of physiological and pathological changes in the cell. GAREM (GRB2 associated, regulator of MAPK1), also known as Gm944, FAM59A or C18orf11, is an 876 amino acid plasma membrane adapter protein that participates in intracellular signaling cascades triggered either by the cell surface activated EGFR and/or cytoplasmic protein tyrosine kinases. Involved in regulating cell proliferation, GAREM is expressed ubiquitously and consists of a SAM (sterile  $\alpha$  motif) domain. GAREM interacts with GRB2 via SH3 domains upon EGFR stimulation. GAREM exists as 3 alternatively spliced isoforms and is encoded by a gene located on human chromosome 18, which encodes over 300 genes and contains about 76 million bases.

## REFERENCES

1. Buday, L. and Downward, J. 1993. Epidermal growth factor regulates p21 ras through the formation of a complex of receptor, GRB2 adaptor protein, and Sos nucleotide exchange factor. *Cell* 73: 611-620.
2. Keyse, S.M. 1995. An emerging family of dual specificity MAP kinase phosphatases. *Biochim. Biophys. Acta* 1265: 152-160.
3. Tashiro, K., et al. 2009. GAREM, a novel adaptor protein for growth factor receptor-bound protein 2, contributes to cellular transformation through the activation of extracellular signal-regulated kinase signaling. *J. Biol. Chem.* 284: 20206-20214.
4. Zeng, J.L., et al. 2011. A genome-wide screen for promoter-specific sites of differential DNA methylation during human cell malignant transformation *in vitro*. *Zhonghua Yu Fang Yi Xue Za Zhi* 45: 404-409.
5. Kim, J.J., et al. 2012. Exome sequencing and subsequent association studies identify five amino acid-altering variants influencing human height. *Hum. Genet.* 131: 471-478.

## CHROMOSOMAL LOCATION

Genetic locus: GAREM (human) mapping to 18q12.1; Fam59a (mouse) mapping to 18 A2.

## SOURCE

GAREM (S-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of GAREM of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-84821 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

GAREM (S-20) is recommended for detection of GAREM of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

GAREM (S-20) is also recommended for detection of GAREM in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for GAREM siRNA (h): sc-77308, GAREM siRNA (m): sc-145636, GAREM shRNA Plasmid (h): sc-77308-SH, GAREM shRNA Plasmid (m): sc-145636-SH, GAREM shRNA (h) Lentiviral Particles: sc-77308-V and GAREM shRNA (m) Lentiviral Particles: sc-145636-V.

Molecular Weight of GAREM isoform 1/2: 97 kDa.

Molecular Weight of GAREM isoform 3: 90 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.