

# GARNL1 (E-17): sc-107555

## BACKGROUND

GARNL1 (GTPase activating Rap/Ran-GAP domain-like 1), also known as TULIP1 (tuberin-like protein1) or GRIPE (GAP-related-interacting partner to E12), contains one Rap-GAP domain. It is expressed during embryogenesis with E12. During development, GARNL1 expression decreases, persisting at high levels only in neurons of the adult brain. GARNL1 localizes to the cytoplasm where it may play a role regulating GTP hydrolysis of proteins such as Ran and Rap. GARNL1 is imported to the nucleus via dimerization with E12. GARNL1 interacts with the HLH region of E12 and may function to negatively regulate the transcription of E12-dependent downstream target genes. This suggests that at least a portion of the function of GARNL1 is dependent upon its association with E12. GARNL1 may also associate with other HLH proteins and influence a variety of HLH signaling cascades. In adult brain, GARNL1 activity does not involve E12 and therefore it may serve a different function in developed neural tissue.

## REFERENCES

1. Nagase, T., et al. 1999. Prediction of the coding sequences of unidentified human genes. XI. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. *DNA Res.* 5: 277-286.
2. Heng, J.I. and Tan, S.S. 2002. Cloning and characterization of GRIPE, a novel interacting partner of the transcription factor E12 in developing mouse forebrain. *J. Biol. Chem.* 277: 43152-43159.
3. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608884. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Schwarzbraun, T., et al. 2004. Cloning, genomic structure, and expression profiles of TULIP1 (GARNL1), a brain-expressed candidate gene for 14q13-linked neurological phenotypes, and its murine homologue. *Genomics* 84: 577-586.
5. Chen, C.F., et al. 2007. Laying traits and underlying transcripts, expressed in the hypothalamus and pituitary gland, that were associated with egg production variability in chickens. *Theriogenology* 68: 1305-1315.
6. Chen, L.R., et al. 2007. Expression of 25 high egg production related transcripts that identified from hypothalamus and pituitary gland in red-feather Taiwan country chickens. *Anim. Reprod. Sci.* 100: 172-185.

## CHROMOSOMAL LOCATION

Genetic locus: Ralgapa1 (rat) mapping to 6q23.

## SOURCE

GARNL1 (E-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GARNL1 of rat origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-107555 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

GARNL1 (E-17) is recommended for detection of GARNL1 of rat 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); non cross-reactive with GARNL3 or GARNL4.

GARNL1 (E-17) is also recommended for detection of GARNL1 in additional species, including equine, canine, porcine and avian.

Molecular Weight of GARNL1: 230 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

## STORAGE

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

## 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.