

Product Information

Anti-Granulin

produced in rabbit, affinity isolated antibody

Catalog Number **SAB4200557**

Product Description

Anti-Granulin is produced in rabbit using as immunogen a synthetic peptide corresponding to an internal sequence of human granulin precursor (GeneID: 2896), conjugated to KLH. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Granulin specifically recognizes human granulin. The antibody may be used in various immunochemical techniques including immunoblotting (~80 kDa), immunoprecipitation and immunofluorescence. Detection of the granulin band by immunoblotting is specifically inhibited by the granulin immunizing peptide.

Granulin (also known as progranulin, PGRN, epithelin precursor, acrogranin, PC cell-derived growth factor) is a secreted, high molecular weight growth factor. It is composed of 7.5 repeat units of a unique, structurally defined cysteine-rich granulin-epithelin motif. *Progranulin* gene is expressed at high levels in adult epithelial cells that are rapidly cycling such as keratinocytes, whereas most mitotically quiescent epithelia express it at relatively low levels.¹ Granulin stimulates the proliferation of many epithelial cells and promotes their anchorage-independent growth. Over-expression of Granulin confers epithelial invasiveness and tumorigenicity.² There is growing evidence that granulin is involved in embryonic and neonatal development, placenta, the epidermis, vasculature angiogenesis, and the developing nervous system.^{1,3} Granulin activates the ERK and PI-3 kinase signaling cascades, and stimulates an increase in cyclins D1 and -B.⁴ Granulin over-expression has been associated with many cancers, including glioblastomas, breast cancer, high-grade renal carcinomas, and invasive ovarian cancers. Granulin is highly expressed in motor neurons, it regulates neurite outgrowth and promotes neuronal cell survival.⁵ *Progranulin* gene mutations and PGRN gene haploin sufficiency, have been recently proposed to cause a form of frontotemporal dementia, FTLD-TDP, associated with the formation of pathogenic TDP-43 and ubiquitin positive inclusions.⁶⁻⁸

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody Concentration: ~1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 0.5-1 µg/mL is recommended using extracts of HEK-293T cells over-expressing human granulin.

Immunoprecipitation: a working amount of 2-4 µg is recommended using lysates of HEK-293T cells over-expressing human granulin.

Immunofluorescence: a working concentration of 2-4 µg/mL is recommended using HEK-293T cells over-expressing human granulin..

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

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3. Daniel, R., et al., *Dev. Dyn.*, **227**, 593-599 (2003).

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5. Ryan, C.L., et al., *BMC Neurosci.*, **10**, 130 (2009)
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6. Baker, M., et al., *Nature*, **442**, 916-919 (2006).
7. Cruets, M., et al., *Nature*, **442**, 920-924 (2006).
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