

Product Information

Anti-Granulin (C-terminal)

produced in rabbit, affinity isolated antibody

Catalog Number **SAB4200310**

Product Description

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

Anti-Granulin (C-terminal) specifically recognizes human granulin. The antibody may be used in various immunochemical techniques including immunoblotting (~80 kDa) 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 the adult in epithelial cells that are rapidly cycling, such as keratinocytes, whereas most mitotically quiescent epithelia express it at relatively low levels.¹ It stimulates the proliferation of many epithelial cells, promotes their anchorage-independent growth, whereas its over-expression 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 haploinsufficiency 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 1-2 µg/mL is recommended using MCF7 cell extracts.

Immunofluorescence: a working concentration of 10-20 µg/mL is recommended using A431 cells.

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

References

1. Daniel, R., et al., *J. Histochem. Cytochem.*, **48**, 999-1009 (2000).
2. He, Z., et al., *Cancer Res.*, **62**, 5590-5596 (2002).
3. Daniel, R., et al., *Dev. Dyn.*, **227**, 593-599 (2003).
4. Lu, R., and Serrero, G., *Proc. Natl. Acad. Sci. USA*, **98**, 142-147 (2001).
5. Ryan, C.L., et al., *BMC Neurosci.*, **10**, 130 (2009) doi :10.1186/1471-2202-10-130.
6. Baker, M., et al., *Nature*, **442**, 916-919 (2006).

7. Cruts, M., et al., *Nature*, **442**, 920-924 (2006).

8. Plotkin-Chen, A.S., et al., *Acta Neuropathol.*, **119**, 111-122 (2010).

ER,RC,KAA,PHC 10/11-1