

Product datasheet for **RC202139**

Granulin (GRN) (NM_002087) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Granulin (GRN) (NM_002087) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Granulin
Synonyms:	CLN11; GEP; GP88; PCDGF; PEPI; PGRN
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC202139 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGTGGACCTGGTGAAGTGGTGGCCTTAACAGCAGGGCTGGTGGCTGGAACCGGTGCCAGATGGTC
 AGTTCTGCCCTGTGGCCTGCTGCCTGGACCCCGAGGAGCCAGCTACAGCTGCTGCCGTCCCTTCTGGA
 CAAATGGCCACAACTGAGCAGGCATCTGGGTGGCCCTGCCAGTTGATGCCACTGCTCTGCCGGC
 CACTCCTGCATCTTACCGTCTCAGGGACTTCCAGTTGCTGCCCTTCCCAGAGGCCGTGGCATGCGGGG
 ATGGCCATCACTGCTGCCACGGGGTCCACTGCAGTGCAGACGGGCGATCCTGCTTCAAAGATCAGG
 TAACTCCGTGGTGGCCTCCAGTGCCTGATAGTCAGTTGGAATGCCCGGACTTCTCCAGTGTGT
 GTTATGGTCGATGGTCTGGGGTGTGCCCATGCCAGGCTTCTGCTGTGAAGACAGGGTGCCT
 GCTGTCCGCACGGTGCCTTCTGCGACCTGGTTCACACCCGCTGCATCACACCCACGGGCACCCACCCCT
 GGCAAAGAAGCTCCCTGCCAGAGGACTAACAGGGCAGTGGCCTTGCCAGCTCGGTGATGTGTCCGGAC
 GCACGGTCCCGGTGCCCTGATGGTTCTACCTGCTGTGAGCTGCCAGTGGGAAATGATGGTGTGCCAA
 TGCCCAACGCCACCTGCTGCTCCGATCACCTGCACTGCTGCCCAAGACTGTGTGTGACCTGATCCA
 GAGTAAGTGCCTCTCAAAGGAGAAGCTACCACGGACCTCCTACTAAGTGCCTGCGCACACAGTGGGG
 GATGTGAAATGTGACATGGAGGTGAGCTGCCAGATGGCTATACCTGCTGCCGTCTACAGTGGGGGCT
 GGGGCTGCTGCCCTTTTACCCAGGCTGTGTGCTGTGAGGACCACATACACTGCTGTCCCGGGGGTTAC
 GTGTGACACGCAGAAGGGTACCTGTGAACAGGGGCCCCACAGGTGCCCTGGATGGAGAAGGCCACAGT
 CACCTCAGCCTGCCAGACCCACAAGCCTTGAAGAGAGATGTCCCTGTGATAATGTCAGCAGCTGTCCCT
 CCTCCGATACCTGCTGCCAACTCAGTCTGGGGAGTGGGGTGTGCTCCAATCCCAGAGGTGTCTGCTG
 CTGGACACACGACTGCTGCCCCAGGGCTACACGTGTGTAGCTGAGGGGCAAGTGTGAGGAGGAAGC
 GAGATCGTGGTGGACTGGAGAAGATGCCTGCCGCGGGCTTCTTATCCCACCCAGAGACATCGGCT
 GTGACCAGCACACAGCTGCCCGGTGGGCAGACCTGCTGCCGAGCCTGGTGGGAGTGGGCTGCTG
 CCAGTTGCCCATGCTGTGTGCTGCGAGGATCGCCAGCACTGCTGCCCGGTGGTACACCTGCAACGTG
 AAGGCTCGATCCTGCGAGAAGGAAGTGGTCTTCCAGCCTGCCACCTTCTGGCCGTAGCCCTCAGG
 TGGGTGTGAAGGACGTGGAGTGTGGGAAGGACACTTCTGCCATGATAACCAGACCTGCTGCCGAGACAA
 CCGACAGGGTGGGCTGCTGTCCCTACCGCCAGGGCTGCTGTTGTGCTGATCGGCGCCACTGCTGTCT
 GCTGGCTTCCGCTGCGCAGCCAGGGTACCAAGTGTGCGCAGGGAGGCCCGCTGGGACGCCCTT
 TGAGGGACCCAGCCTTGAGACAGCTGCTG

ACGCGTACGCGGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC202139 protein sequence
 Red=Cloning site Green=Tags(s)

MWTLVSWVALTAGLVAGTRCPDQGFVAVACCLDPGGASYSCCRPLLDKWPITLSRHLGGPCQVDAHCSAG
 HSCIFTVSGTSSCCPFPEAVACGDGHHCCPRGFHCSADGRSCFQRSGNNSVGAIQCPDSQFECPDFSTCC
 VMVDGSWGCCPMPQASCCEDRVHCCPHGAFCDLVHTRCITPTGTHPLAKKLPARTNRAVALSSVMCPD
 ARSRCPDSTCCCLPSGKYGCCPMPNATCCSDHLHCCPQDTVCDLIQSKCLSKENATDILLTKLPAHTVG
 DVKCDMEVSCPDPGYTCCRLQSGAWGCCPFTQAVCCEDHIHCCPAGFTCDTQKGTCEQGPVQVWMEKAPA
 HLSLPDPQALKRDVPCDNVSSCPSSDTCCQLTSGEWGCCPIPEAVCCSDHQHCCPQGYTCVAEGQCQRGS
 EIVAGLEKMPARRASLSHPRDIGCDQHTSCPVGQTCPPSLGGSWACCQLPHAVCCEDRQHCCPAGYTCNV
 KARSCEKEVVSAPATFLARSPHVGVKDVCEGEGHFCHDNQTCRRDNRQGWACCPYRQGVCCADRRHCCP
 AGFRCAARGTKCLRREAPRWDAPLRDPALRQLL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6226_h05.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_002087

ORF Size: 1779 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

- Reconstitution Method:**
1. Centrifuge at 5,000xg for 5min.
 2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
 3. Close the tube and incubate for 10 minutes at room temperature.
 4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
 5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [NM_002087.4](#)

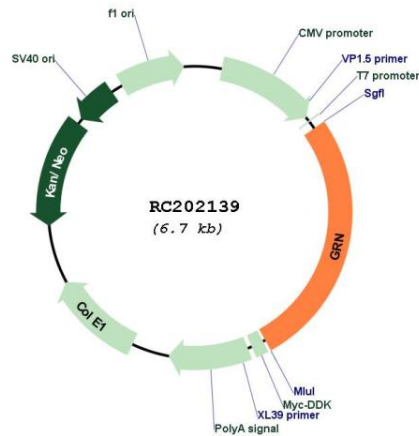
RefSeq Size: 2323 bp

RefSeq ORF: 1782 bp

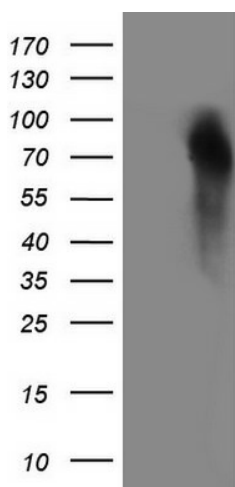
Locus ID: 2896
UniProt ID: [P28799](#)
Cytogenetics: 17q21.31
Domains: GRAN
Protein Families: Druggable Genome, Secreted Protein
MW: 63.5 kDa

Gene Summary: Granulins are a family of secreted, glycosylated peptides that are cleaved from a single precursor protein with 7.5 repeats of a highly conserved 12-cysteine granulin/epithelin motif. The 88 kDa precursor protein, progranulin, is also called proepithelin and PC cell-derived growth factor. Cleavage of the signal peptide produces mature granulin which can be further cleaved into a variety of active, 6 kDa peptides. These smaller cleavage products are named granulin A, granulin B, granulin C, etc. Epithelins 1 and 2 are synonymous with granulins A and B, respectively. Both the peptides and intact granulin protein regulate cell growth. However, different members of the granulin protein family may act as inhibitors, stimulators, or have dual actions on cell growth. Granulin family members are important in normal development, wound healing, and tumorigenesis. [provided by RefSeq, Jul 2008]

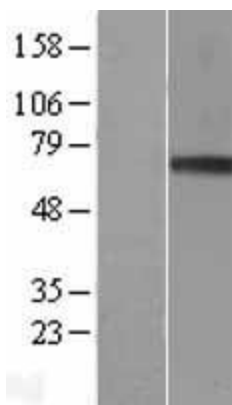
Product images:



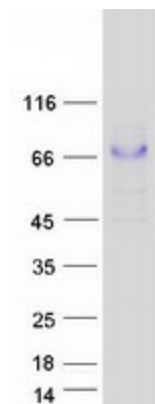
Circular map for RC202139



HEK293T cells were transfected with the pCMV6-ENTRY control (Left lane) or pCMV6-ENTRY GRN (RC202139, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-GRN (1:2000) (TA807350). Positive lysates [LY419545] (100ug) and [LC419545] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY419545]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC202139 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified GRN protein (Cat# [TP302139]). The protein was produced from HEK293T cells transfected with GRN cDNA clone (Cat# RC202139) using MegaTran 2.0 (Cat# [TT210002]).