

Product datasheet for **RC202701**

Insulin (INS) (NM_000207) Human Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: Insulin (INS) (NM_000207) Human Tagged ORF Clone
Tag: Myc-DDK
Symbol: Insulin
Synonyms: IDDM; IDDM1; IDDM2; ILPR; IRDN; MODY10; PNDM4
Mammalian Cell Selection: Neomycin
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
ORF Nucleotide Sequence: >RC202701 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGCCCTGTGGATGCGCCTCCTGCCCTGCTGGCGCTGCTGGCCCTCTGGGGACCTGACCCAGCCGAG
CCTTTGTGAACCAACACCTGTGCGGCTCACACCTGGTGAAGCTCTACCTAGTGTGCGGGGAACGAGG
CTTCTTACACACCAAGACCCCGGGAGGCAGAGGACCTGCAGGTGGGGCAGGTGGAGCTGGGCGGG
GGCCCTGGTGCAGGCAGCCTGCAGCCCTTGGCCCTGGAGGGTCCCTGCAGAAGCGTGGCATTGTGGAAC
AATGCTGTACCAGCATCTGCTCCCTCTACCAGCTGGAGAATACTGCAAC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC202701 protein sequence
Red=Cloning site Green=Tags(s)
MALWMRLLPLLALLLWGPDPAAAFVFNQLCGSHLVEALYLVCGERGFFYTPKTRREAEDLQVGGVQLVGG
GPGAGSLQPLALEGSLQKRGIVIQCCSTICSLYQLENYCN

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6050_e08.zip

Restriction Sites: SgfI-MluI



[View online »](#)

Cloning Scheme:


ACCN: NM_000207

ORF Size: 330 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_000207.3](#)

RefSeq Size: 469 bp

RefSeq ORF: 333 bp

Locus ID: 3630

UniProt ID: [P01308](#)

Cytogenetics: 11p15.5

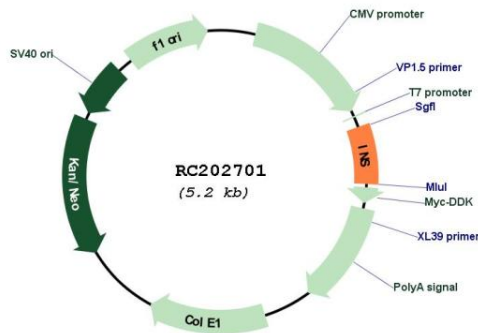
Protein Families: Druggable Genome, ES Cell Differentiation/IPS, Secreted Protein

Protein Pathways: Insulin signaling pathway, Maturity onset diabetes of the young, mTOR signaling pathway, Oocyte meiosis, Progesterone-mediated oocyte maturation, Prostate cancer, Regulation of actin cytoskeleton, Regulation of autophagy, Type I diabetes mellitus, Type II diabetes mellitus

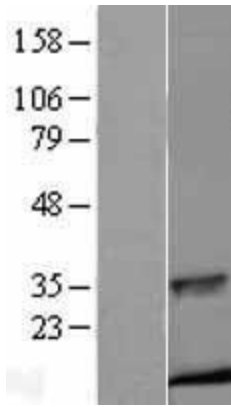
MW: 12 kDa

Gene Summary: This gene encodes insulin, a peptide hormone that plays a vital role in the regulation of carbohydrate and lipid metabolism. After removal of the precursor signal peptide, proinsulin is post-translationally cleaved into three peptides: the B chain and A chain peptides, which are covalently linked via two disulfide bonds to form insulin, and C-peptide. Binding of insulin to the insulin receptor (INSR) stimulates glucose uptake. A multitude of mutant alleles with phenotypic effects have been identified, including insulin-dependent diabetes mellitus, permanent neonatal diabetes diabetes mellitus, maturity-onset diabetes of the young type 10 and hyperproinsulinemia. There is a read-through gene, INS-IGF2, which overlaps with this gene at the 5' region and with the IGF2 gene at the 3' region. [provided by RefSeq, May 2020]

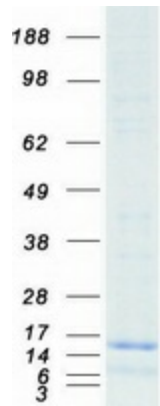
Product images:



Circular map for RC202701



Western blot validation of overexpression lysate (Cat# [LY400078]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC202701 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified INS protein (Cat# [TP302701]). The protein was produced from HEK293T cells transfected with INS cDNA clone (Cat# RC202701) using MegaTran 2.0 (Cat# [TT210002]).