

Product datasheet for **RG235681**

Insulin (INS) (NM_001291897) Human Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: Insulin (INS) (NM_001291897) Human Tagged ORF Clone
Tag: TurboGFP
Symbol: INS
Synonyms: IDDM; IDDM1; IDDM2; ILPR; IRDN; MODY10; PNDM4
Mammalian Cell Selection: Neomycin
Vector: pCMV6-AC-GFP (PS100010)
E. coli Selection: Ampicillin (100 ug/mL)
ORF Nucleotide Sequence: >RG235681 representing NM_001291897.
Blue=ORF Red=Cloning site Green=Tag(s)

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GCTCGTTTAGTGAACCGTCAGAATTTGTAAACGACTCACTATAGGGCGCCGGGAATTCGTCGACTG
GATCCGGTACCGAGGAGATCTGCCGCCGCGATCGCC
ATGGCCCTGTGGATGCGCCTCTGCCCTGCTGGCGCTGCTGGCCCTCTGGGGACCTGACCCAGCCGCA
GCCTTTGTGAACCAACACCTGTGCGGCTCACACCTGGTGAAGCTCTCTACCTAGTGTGCGGGGAACGA
GGCTTCTTCTACACCCAAGACCCGCCGGGAGGCAGAGGACCTGCAGGTGGGCAGGTGGAGCTGGGC
GGGGGCCCTGGTGCAGGCAGCCTGCAGCCCTTGGCCCTGGAGGGTCCCTGCAGAAGCGTGGCATTGTG
GAACAATGCTGTACCAGCATCTGCTCCCTCTACCAGCTGGAGAACTACTGCAAC
ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAAAC
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Protein Sequence: >Peptide sequence encoded by RG235681
Blue=ORF Red=Cloning site Green=Tag(s)

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MALWMRLLPLLALLALWGPDPAAAFVNQHLCGSHLVEALYLVCGERGFFYTPKTRREAEDLQVGGVELG
GGPGAGSLQPLALEGSLQKRGIVEQCCTSICSLYQLENYCN
TRTRPLEMESDESGLPAMEIECRITGTLNGVEFELVGGEGTPEQGRMTNKMKSTKGALTFSPYLLSHV
MGYGFYHFGTYPSGYENPFLHAINNGGYNTRIEKYEDGGVLHVSFSYRYEAGRVIGDFKVMGTGFPED
SVIFTDKIIRSNAIVEHLHPMGDNDLDGSFTRTFSLRDGGYSSVVDSHMHFKSAIHPSILQNGGPMFA
FRRVEEDHSNTELGIVEYQHAFKTPDADAGEERV
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Restriction Sites: SgfI-MluI



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OTI Disclaimer:	Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.
	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).
RefSeq:	NM_001291897.2
RefSeq Size:	529 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]