

Product datasheet for **RR213887**

Appl2 (NM_001108741) Rat Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Appl2 (NM_001108741) Rat Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Appl2
Synonyms:	RGD1563028
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

**ORF Nucleotide
Sequence:**

>RR213887 representing NM_001108741
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGCCCGCGTGGACAAGCTCCTGCTGGAGGAGCGCTGCAGGACAGCCCCAGACGAGGTCCCTGCTGA
 GTGTCTTTGAAGAGGATGCTGGCACCTCACAGACTACACCAACCAGCTGCTGCAGGCGATGCAGCGTGT
 CTATGGTGCACAGAATGAAATGTGTCTGGCCACGCAACAGCTTTCCAGGCAGCTGCTGGCATATGAAAA
 CAGAATTTTGCAGTGGGCAAAGGCGACGAAGAAGTAATTTCTACACTACATTATTTTTCCAAAGTGATGG
 ATGAGCTCAATGGTCTCCACTCAGAGCTGGCCAAGCAACTGGCAGACACTATGGTTCTCCCTGTTATACA
 GTTCCGAGAGAAGGATCTCACAGAGGTCAGCACTTTGAAGGATCTCTTTGGACTTGCCAGCAATGAGCAT
 GACCTGTCAATGGCAAAATACAGCAGGCTCCCTAAGAGAAAGGAGAACGAGAGGGTGAAGACGGACGTTG
 CAAAGGAGGTGGCAGCTGCCCGCGGAAACAGCATCTGTATCCCTTCAGTACTACTGTGCACTGAACGC
 ACTGCAGTACCGAAGAGGGCAGCCATGATGGAGCCGCTCATAGGCTTTGCCATGGACAGATTAACCTT
 TTCAAGAAAGGAGCAGAGATGTTCTCAAAAGTATGGACGGTTTCTTATCATCCGTTACAGACATGGTTC
 AGAGCATTGAGTGAAGTGAAGCCGAGGCCGACAAGATGCGGGTGTCCAGCAGGAGGCTGCTTTCAGT
 CAGTGAGTCTGTTTACACTCCGGACATCGATGTGGCCACACCCGAGATCAACAGGAACTCATCCAGAAG
 ACTGGCTACCTCAATCTCAGAAACAAGACGGGACTGGTACCACCACATGGGAAAGGCTGTACTTCTTCA
 CCCAAGGCGGAACTCATGTGCCAGCTAGGGGAGCTGTGGCTGGAGGCTTGATTGAGGACCTGGACAA
 CTGCTCTGTGATGGCGGTGGATTGCGAAGACCGACGATACTGCTCCAGATCTCCAGCCAGTGGCAAA
 CCGGGGATAATTTCCAGGCAGAGAGCAGAAAGGAATATGAAGAGTGGATATGTGCAATAAACAATATCT
 CCAGGCAGATCTACCTGACAGACAACCCAGAGGCAGTAGCCATCAAGTTGAATCAGACGGCTCTTCAGGC
 GGTGACTCCGATTACAAGCTTTGGGAAAAACAAGAAAGCTTCTACTTCAGTCAAAACATAAAAAATTCA
 GACACAGGATATGTCAAGATTGTTCCAAAGCAGCAGCCAGCATTCTGAGACAGAGGAAGTATTGCAC
 CTGGGACACCCATTGAGTTTACATTGACTTCTGCAACGGAATTCCTTGACCAGAACAGAGGCAGCAG
 GCGCATCAACCTTTTGGTGGAGCGGAGGATGACTCATTCCGGACGCAGAAGACTCTCTTTCAGCAG
 ATGTTTCATCGTTCGGTTTTTGGGATCGATGGCAGTTAAGACAGACAGCACTACGGAAGTATTTATGAAG
 CGATGCGACAAGTACTGGCTGCTCGGGCTATTCACAACATCTCCGCACCACGGAGTCCACCTGATGGT
 TACCAGTCAGACTCTGAGGTTGATAGATCCTCAGACTCAAGTGTACGGGCCTGTTTTGAGCTCACCAGT
 GTCACACAGTTTGTGCTCATCAAGAAACAAAAGGCTGGTTGGCTTCGTCATCCGAGTCCCGGAGTCTA
 CAGGAGAAGAGTCTCTGAGCACATACATTTTTGAAAGCAACTCAGAAGGCGAGAAGATATGTTATGCTAT
 TAATTTGGGGAAGAAATTATTGAGGTTCAAAGGATCCAGAAGCACTGGCTCGATTAATGCTGTCTGTA
 CCACTAACCAATGACGGAATATGTAAGTTAAACGATCAAGCAGATGACACTGGCGGAAGTCCAAGT
 ACCACAGAGGCGCAGAGTCTGAAGCA

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RR213887 representing NM_001108741
Red=Cloning site Green=Tags(s)

MPAVDKLLLEEALQDSPQTRSLLSVFEEDAGTLTDYTNQLLQAMQRVYGAQNEMCLATQQLSRQLLAYEK
 QNFALGKGDDEEIVSTLHYFSKVMDELNGLHSELAKQLADTMVLPVIQFREKDLTEVSTLKDFLGLASNEH
 DL SMAKYSRLPKRKENERVKTDVAKEVAAARRKQHLSSLQYYCALNALQYRKRAAMMEPLIGFAHQQINF
 FKKGAEMF SKSMDGFLSSVTDVQSIQVELEAEADKMRVSOQELL SVSESVYTPDIDVATPQINRNLIQK
 TGYLNLNRNKTGLVTTTWERLYFF TQGGNLMCQPRGAVAGGLIQDLDNCSVMAVDCEDRRYCFQISTPSGK
 PGIILQAESRKEYEWEICAINNISRQIYLTDNPEAVAIAIKLNQTALQAVTPITSFGKKQESFYFSQNIKNS
 DTGYVKIVPKAAASIPETEELIAPGTPIQFDIVLPATEFLDQNRGSRINPFGETEDDSFPDAEDSLLQQ
 MFIVRFLGSMAVKTDSTTEVIYEAMRQVLAARAIHNI FRTTESHLMVTSQTLRLIDPQTQVSRACFELTS
 VTQFAAHQENKRLVGFVIRVPESTGEESLSTYIFESNSEGEKICYAINLGKEIEVQKDPEALARLMLSV
 PLTNDGKYVLLNDQADDTGGSPSDHRGAESA

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

SgfI-MluI

Cloning Scheme:



ACCN: NM_001108741

ORF Size: 1986 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.

RefSeq: [NM_001108741.1](#), [NP_001102211.1](#)

RefSeq Size: 2964 bp

RefSeq ORF: 1989 bp

Locus ID: 362860

UniProt ID: [B4F779](#)

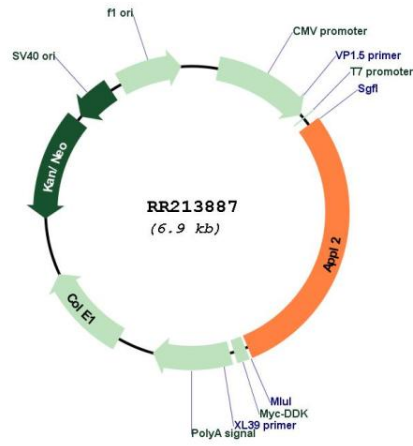
Cytogenetics: 7q13

MW: 74.1 kDa

Gene Summary:

Multifunctional adapter protein that binds to various membrane receptors, nuclear factors and signaling proteins to regulate many processes, such as cell proliferation, immune response, endosomal trafficking and cell metabolism. Regulates signaling pathway leading to cell proliferation through interaction with RAB5A and subunits of the NuRD/MeCP1 complex (By similarity). Plays a role in immune response by modulating phagocytosis, inflammatory and innate immune responses. In macrophages, enhances Fc-gamma receptor-mediated phagocytosis through interaction with RAB31 leading to activation of PI3K/Akt signaling. In response to LPS, modulates inflammatory responses by playing a key role on the regulation of TLR4 signaling and in the nuclear translocation of RELA/NF-kappa-B p65 and the secretion of pro- and anti-inflammatory cytokines. Also functions as a negative regulator of innate immune response via inhibition of AKT1 signaling pathway by forming a complex with APPL1 and PIK3R1 (By similarity). Plays a role in endosomal trafficking of TGFBR1 from the endosomes to the nucleus (By similarity). Plays a role in cell metabolism by regulating adiponectin and insulin signaling pathways and adaptive thermogenesis (By similarity). In muscle, negatively regulates adiponectin-stimulated glucose uptake and fatty acid oxidation by inhibiting adiponectin signaling pathway through APPL1 sequestration thereby antagonizing APPL1 action (By similarity). In muscles, negatively regulates insulin-induced plasma membrane recruitment of GLUT4 and glucose uptake through interaction with TBC1D1 (By similarity). Plays a role in cold and diet-induced adaptive thermogenesis by activating ventromedial hypothalamus (VMH) neurons through AMPK inhibition which enhances sympathetic outflow to subcutaneous white adipose tissue (sWAT), sWAT being and cold tolerance (By similarity). Also plays a role in other signaling pathways namely Wnt/beta-catenin, HGF and glucocorticoid receptor signaling (By similarity). Positive regulator of beta-catenin/TCF-dependent transcription through direct interaction with RUVBL2/reptin resulting in the relief of RUVBL2-mediated repression of beta-catenin/TCF target genes by modulating the interactions within the beta-catenin-reptin-HDAC complex (By similarity). May affect adult neurogenesis in hippocampus and olfactory system via regulating the sensitivity of glucocorticoid receptor. Required for fibroblast migration through HGF cell signaling (By similarity).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for RR213887