

Product datasheet for **RN213887**

Appl2 (NM_001108741) Rat Untagged Clone

Product data:

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



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Fully Sequenced ORF: >RN213887 representing NM_001108741
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGCCCGCGTGGACAAGCTCCTGCTGGAGGAGCGCTGCAGGACAGCCCCAGACGAGGTCCCTGCTGA
 GTGCTTTGAAGAGGATGCTGGCACCTCACAGACTACACCAACCAGCTGCTGCAGGCGATGCAGCGTGT
 CTATGGTGCACAGAATGAAATGTGTCTGGCCACGCAACAGCTTCCAGGCAGCTGCTGGCATATGAAAA
 CAGAATTTTGCAGTGGGCAAAGGCGACGAAGAAGTAATTTCTACACTACATTATTTTTCCAAAGTGATGG
 ATGAGCTCAATGGTCTCCACTCAGAGCTGGCCAAGCAACTGGCAGACACTATGGTTCTCCCTGTTATACA
 GTTCCGAGAGAAGGATCTCACAGAGGTCAGCACTTTGAAGGATCTCTTTGGACTTGCCAGCAATGAGCAT
 GACCTGTCAATGGCAAAATACAGCAGGCTCCCTAAGAGAAAGGAGAACGAGAGGGTGAAGACGGACGTTG
 CAAAGGAGGTGGCAGCTGCCCGCGGAAACAGCATCTGTCATCCCTTCAGTACTACTGTGCACTGAACGC
 ACTGCAGTACCGAAGAGGGCAGCCATGATGGAGCCGCTCATAGGCTTTGCCATGGACAGATTAACCTT
 TTCAAGAAAGGAGCAGAGATGTTCTCAAAAGTATGGACGGTTTCTTATCATCCGTTACAGACATGGTTC
 AGAGCATTGAGGTGGAAGTGAAGCCGAGGCCGACAAGATGCGGGTGTCCAGCAGGAGGCTGCTTTCAGT
 CAGTGAGTCTGTTTACACTCCGGACATCGATGTGGCCACACCCGAGATCAACAGGAACTCATCCAGAAG
 ACTGGCTACCTCAATCTCAGAAACAAGACGGGACTGGTACCACCACATGGGAAAGGCTGTACTTCTTCA
 CCCAAGGCGGAACTCATGTGCCAGCTAGGGGAGCTGTGGCTGGAGGCTTGATTGAGGACCTGGACAA
 CTGCTCTGTGATGGCGGTGGATTGCGAAGACCGACGATACTGCTCCAGATCTCCAGCCAGTGGCAAA
 CCGGGGATAATTTCCAGGCAGAGAGCAGAAAGGAATATGAAGAGTGGATATGTGCAATAAACAATATCT
 CCAGGCAGATCTACCTGACAGACAACCCAGAGGCAGTAGCCATCAAGTTGAATCAGACGGCTTTCAGGC
 GGTGACTCCGATTACAAGCTTTGGGAAAAACAAGAAAGCTTCTACTTCAGTCAAAACATAAAAAATTCA
 GACACAGGATATGTCAAGATTGTTCCAAAGCAGCAGCCAGCATTCTGAGACAGAGGAAGTATTGCAC
 CTGGGACACCCATTGAGTTGACATTGACTTCTGCAACGGAATTCCTTGACCAGAACAGAGGCAGCAG
 GCGCATCAACCCTTTGGTGAGACGGAGGATGACTCATTCCGGACGCAGAAGACTCTCTCTTGACGAG
 ATGTTTCATCGTTCGTTTTTGGGATCGATGGCAGTTAAGACAGACAGCACTACGGAAGTGATTTATGAAG
 CGATGCGACAAGTACTGGCTGCTCGGGCTATTACAACATCTCCGCACCACGGAGTCCACCTGATGGT
 TACCAGTCAGACTCTGAGTTGATAGATCCTCAGACTCAAGTGTACGGGCTGTTTTGAGCTCACCAGT
 GTCACACAGTTTGTGCTCATCAAGAAACAAAAGGCTGGTTGGCTTCGTCATCCGAGTCCCGGAGTCTA
 CAGGAGAAGAGTCTCTGAGCACATACATTTTTGAAAGCAACTCAGAAGGCGAGAAGATATGTTATGCTAT
 TAATTTGGGAAAGAAATTATTGAGTTCAAAGGATCCAGAAGCACTGGCTCGATTAATGCTGTCTGTA
 CCACTAACCAATGACGAAAATATGACTGTAAACGATCAAGCAGATGACACTGGCGGAAGTCCAAGTG
 ACCACAGAGGCGCAGAGTCTGAAGCAT**TAA**

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

- Restriction Sites:** SgfI-MluI
- ACCN:** NM_001108741
- Insert Size:** 1989 bp
- OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
- 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

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]