Recombinant Mouse Appl2 Protein, Myc/DDK-tagged

Cat. No. Appl2-1668M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Purified recombinant protein of mouse full-length adaptor protein, phosphotyrosine interaction, PH domain and leucine zipper containing 2 (Appl2), with C-terminal MYC/DDK tag, expressed in HEK293T cells.
Species	Mouse
Source	HEK293
Description	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. 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. Plays a role in endosomal trafficking of TGFBR1 from the endosomes to the nucleus. plays a role in cell metabolism by regulating adiponecting ans insulin signaling pathways and adaptative thermogenesis. In muscle, negatively regulates adiponectin-simulated glucose uptake and fatty acid oxidation by inhibiting

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	adiponectin signaling pathway through APPL1 sequestration thereby antagonizing APPL1 action. In muscles, negativeliy regulates insulin-induced plasma membrane recruitment of GLUT4 and glucose uptake through interaction with TBC1D1. Plays a role in cold and diet-induced adaptive thermogenesis by activating ventromedial hypothalamus (VMH) neurons throught AMPK inhibition which enhances sympathetic outflow to subcutaneous white adipose tissue (sWAT), sWAT beiging and cold tolerance. Also plays a role in other signaling pathways namely Wnt/beta-catenin, HGF and glucocorticoid receptor signaling. 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. May affect adult neurogenesis in hippocampus and olfactory system via regulating the sensitivity of glucocorticoid receptor. Required for fibroblast migration through HGF cell signaling.
Molecular Mass	73.9 kDa
Purity	> 80% as determined by SDS-PAGE and Coomassie blue staining
Stability	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
Storage	Store at -80 centigrade after receiving vials.
Concentration	>50 μg/mL as determined by microplate BCA method
Storage Buffer	25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol.

GENE INFORMATION

Gene Name	Appl2 adaptor protein, phosphotyrosine interaction, PH domain and leucine zipper

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	containing 2 [Mus musculus (house mouse)]
Official Symbol	Appl2
Synonyms	APPL2; adaptor protein, phosphotyrosine interaction, PH domain and leucine zipper containing 2; DCC-interacting protein 13-beta; Dip3 beta; DIP13 beta; dip13-beta; adapter protein containing PH domain, PTB domain and leucine zipper motif 2; Dip3b
Gene ID	216190
mRNA Refseq	NM_145220
Protein Refseq	NP_660255
UniProt ID	Q8K3G9

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