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ADCY6 Rabbit pAb

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Catalog # AP58109

Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	O43306
Reactivity	Rat
Predicted	Human, Mouse, Pig, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	130615
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human ADCY6
Epitope Specificity	760-819/1168
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Membrane; Multi-pass membrane protein. Cell projection, cilium (By similarity).
SIMILARITY	Belongs to the adenylyl cyclase class-4/guanylyl cyclase family.Contains 2 guanylate cyclase domains.
SUBUNIT	Part of a complex containing AKAP5, ADCY5, PDE4C and PKD2 (By similarity). Interacts with RAF1.
Post-translational modifications	Phosphorylated by RAF1.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The membrane-bound adenylyl cyclases (ACs) represent one of the major families of effector enzymes for G protein-coupled receptors. Eight human AC isoforms (AC1 through AC4), encoded by separate genes, have been identified up to now. Most of the adenylate cyclase genes are comprised of 11-26 exons and distributed over a q6-430 kb. The majority of the adenylate cyclases previously described are expressed discretely in defined peripheral tissues, the type 4 adenylate cyclase (AC4) is apparently expressed in a variety of peripheral tissues and in the central nervous system, mainly in olfactory system. AC5 proteins are localized on photoreceptor cells and are also designated as GC1 and GC2. The AC5 protein resembles the other adenylyl cyclases in its predicted and proposed structure. AC5 resembles the type 6 (AC6) adenylyl cyclase in its amino acid sequence but becomes divergent at N and C-terminal ends. The AC5 and AC6 proteins are co-localized in most of the visual organs (photoreceptor cells) and are associated with other protein complexes. Both AC5 and AC6 enzymes play an important role in synaptic plasticity by coordinating overlapping synaptic inputs from Gs and Gi coupled receptor stimulation.

Additional Information

Gene ID	112
Other Names	Adenylate cyclase type 6, 4.6.1.1, ATP pyrophosphate-lyase 6, Adenylate cyclase type VI, Adenylyl cyclase 6, Ca(2+)-inhibitable adenylyl cyclase, ADCY6, KIAA0422
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	ADCY6
Synonyms	KIAA0422
Function	Catalyzes the formation of the signaling molecule cAMP downstream of G protein-coupled receptors (PubMed:17110384, PubMed:17916776). Functions in signaling cascades downstream of beta- adrenergic receptors in the heart and in vascular smooth muscle cells (PubMed:17916776). Functions in signaling cascades downstream of the vasopressin receptor in the kidney and has a role in renal water reabsorption. Functions in signaling cascades downstream of PTH1R and plays a role in regulating renal phosphate excretion. Functions in signaling cascades downstream of the VIP and SCT receptors in pancreas and contributes to the regulation of pancreatic amylase and fluid secretion (By similarity). Signaling mediates cAMP-dependent activation of protein kinase PKA. This promotes increased phosphorylation of various proteins, including AKT. Plays a role in regulating cardiac sarcoplasmic reticulum Ca(2+) uptake and storage, and is required for normal heart ventricular contractibility. May contribute to normal heart function (By similarity). Mediates vasodilatation after activation of beta-adrenergic receptors by isoproterenol (PubMed:17916776). Contributes to bone cell responses to mechanical stimuli (By similarity).
Cellular Location	Cell membrane; Multi-pass membrane protein. Cell projection, cilium {ECO:0000250|UniProtKB:Q01341}. Cell projection, stereocilium {ECO:0000250|UniProtKB:Q01341}
Tissue Location	Detected in peripheral blood mononuclear leukocytes (at protein level) (PubMed:17916776). Detected in thyroid (PubMed:10978539).

Background

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proteins are co-localized in most of the visual organs (photoreceptor cells) and are associated with other protein complexes. Both AC5 and AC6 enzymes play an important role in synaptic plasticity by coordinating overlapping synaptic inputs from Gs and Gi coupled receptor stimulation.