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Pael-R (GPR37) Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP6410a

Product Information

Application	WB, IHC-P, E
Primary Accession	O15354
Other Accession	NP_005293
Reactivity	Human, Mouse
Predicted	Rat, Bovine, Canine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB7395
Calculated MW	67114
Antigen Region	97-126

Additional Information

Gene ID	2861
Other Names	Prosaposin receptor GPR37, Endothelin B receptor-like protein 1, ETBR-LP-1, G-protein coupled receptor 37, Parkin-associated endothelin receptor-like receptor, PAELR, GPR37
Target/Specificity	This Pael-R (GPR37) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 97-126 amino acids from the N-terminal region of human Pael-R (GPR37).
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Pael-R (GPR37) Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GPR37
Function	G protein-coupled receptor that plays a role in several physiological

	pathways such as resolution of inflammatory pain and oligodendrocyte differentiation (By similarity). Acts as a receptor for several ligands including prosaposin, osteocalcin or neuroprotectin D1. Ligand binding induces endocytosis, followed by an ERK phosphorylation cascade (PubMed:11439185, PubMed:23690594). Acts as a receptor for osteocalcin (OCN) to regulate oligodendrocyte differentiation and central nervous system myelination. Mechanistically, plays a negative role in oligodendrocyte differentiation and myelination during development via activation of the ERK1/2 signaling pathway. Therefore, regulates the stability of myelin or resistance of myelin itself to demyelination. Upon activation by neuroprotectin D1 (NPD1), promotes the activation of phagocytosis in macrophages as well as the shift in cytokine release toward an anti-inflammatory profile, and thus helps to reverse inflammatory pain. In addition, the increased macrophage phagocytosis mediates protection against sepsis upon pathogen infection. Additionally, extracellular vesicles derived from efferocyte express prosaposin, which binds to macrophage GPR37 to increase expression of the efferocytosis receptor TIM4 via an ERK-AP1-dependent signaling axis, leading to increased macrophage efferocytosis efficiency and accelerated resolution of inflammation (By similarity). May also act as a maturation factor of LRP6, protecting LRP6 from the endoplasmic reticulum (ER)-associated protein degradation (ERAD) and thereby promoting the Wnt/beta-catenin signaling pathway (PubMed:28341812).
Cellular Location	Cell projection, dendrite. Synapse Cell membrane; Multi-pass membrane protein. Endoplasmic reticulum membrane; Multi-pass membrane protein
Tissue Location	Expressed in brain and spinal cord, and at lower levels in testis, placenta and liver, but no detectable expression observed in any other tissue. When overexpressed in cells, tends to become insoluble and unfolded. Accumulation of the unfolded protein may lead to dopaminergic neuronal death in juvenile Parkinson disease (PDJ).

Background

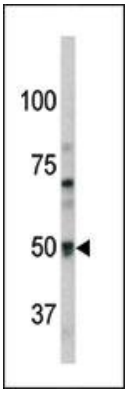
Parkinson is the second most common neurodegenerative disease after Alzheimers. About 1 percent of people over the age of 65 and 3 percent of people over the age of 75 are affected by the disease. The mutation is the most common cause of Parkinson disease identified to date. The function of Park2 is not well-known; however, it may play a role in the ubiquitin-mediated proteolytic pathway. Mutations in this gene are known to cause autosomal recessive juvenile parkinsonism. Alternative splicing of this gene produces three known products of undetermined function. Panneuronal expression of Parkin substrate Pael-R causes age-dependent selective degeneration of Drosophila dopaminergic (DA) neurons; coexpression of Parkin degrades Pael-R and suppresses its toxicity.

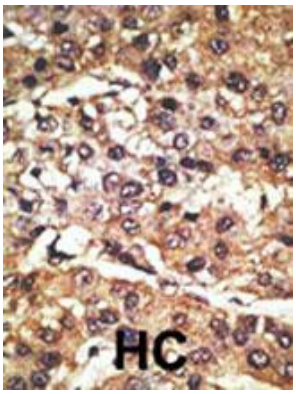
References

Yang,Y., et al. Neuron 37 (6), 911-924 (2003) Imai,Y., et al. Mol. Cell 10 (1), 55-67 (2002) Imai,Y., et al. Cell 105 (7), 891-902 (2001) Marazziti,D., et al. Genomics 45 (1), 68-77 (1997) Zeng,Z., et al. BBRC 233 (2), 559-567 (1997)

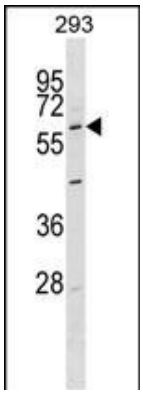
Images

Western blot analysis of anti-Pael-R (GPR37) Pab (Cat. #AP6410a) in mouse brain tissue lysate. Pael-R (GPR37) (arrow) was detected using the purified Pab.





Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.



Pael Antibody (N-term) (Cat. #AP6410a) western blot analysis in 293 cell line lysates (35ug/lane).This demonstrates the Pael antibody detected the Pael protein (arrow).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.