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POFUT1 Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP51434

Product Information

Application	WB, IP, ICC, IHC-P
Primary Accession	Q9H488
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	43956

Additional Information

Gene ID	23509
Other Names	GDP-fucose protein O-fucosyltransferase 1, Peptide-O-fucosyltransferase 1, O-FucT-1, POFUT1, FUT12, KIAA0180
Dilution	WB~~1:1000 IP~~N/A ICC~~N/A IHC-P~~N/A
Format	0.01M PBS, pH 7.2, 0.09% (W/V) Sodium azide, Glycerol 50%
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

Name	POFUT1
Synonyms	FUT12, KIAA0180
Function	Catalyzes the reaction that attaches fucose through an O- glycosidic linkage to a conserved serine or threonine residue found in the consensus sequence C2-X(4,5)-[S/T]-C3 of EGF domains, where C2 and C3 are the second and third conserved cysteines. Specifically uses GDP- fucose as donor substrate and proper disulfide pairing of the substrate EGF domains is required for fucose transfer. Plays a crucial role in NOTCH signaling. Initial fucosylation of NOTCH by POFUT1 generates a substrate for FRINGE/RFNG, an acetylglucosaminyltransferase that can then extend the fucosylation on the NOTCH EGF repeats. This extended fucosylation is required for optimal ligand binding and canonical NOTCH signaling induced by DLL1 or JAGGED1. Fucosylates AGRN and determines its ability to cluster acetylcholine receptors (AChRs).
Cellular Location	Endoplasmic reticulum {ECO:0000250|UniProtKB:Q6EV70}
Tissue Location	Highly expressed in heart, brain, placenta, lung, liver, skeletal muscle, kidney

and pancreas

Background

Catalyzes the reaction that attaches fucose through an O-glycosidic linkage to a conserved serine or threonine residue found in the consensus sequence C2-X(4,5)-[S/T]-C3 of EGF domains, where C2 and C3 are the second and third conserved cysteines. Specifically uses GDP-fucose as donor substrate and proper disulfide pairing of the substrate EGF domains is required for fucose transfer. Plays a crucial role in NOTCH signaling. Initial fucosylation of NOTCH by POFUT1 generates a substrate for FRINGE/RFNG, an acetylglucosaminyltransferase that can then extend the fucosylation on the NOTCH EGF repeats. This extended fucosylation is required for optimal ligand binding and canonical NOTCH signaling induced by DLL1 or JAGGED1. Fucosylates AGRN and determines its ability to cluster acetylcholine receptors (AChRs).

References

Wang Y.,et al.J. Biol. Chem. 276:40338-40345(2001).
Nagase T.,et al.DNA Res. 3:17-24(1996).
Nakajima D.,et al.DNA Res. 9:99-106(2002).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Deloukas P.,et al.Nature 414:865-871(2001).