

Anti-FZD3 antibody

Catalog # ABO13035

Product Information

Application	WB, IHC-P
Primary Accession	Q9NPG1
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for FZD3 detection. Tested with WB, IHC-P in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	7976
Other Names	Frizzled-3, Fz-3, hFz3, FZD3
Calculated MW	76263
Application Details	Western blot, 0.1-0.5 µg/ml Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml
Subcellular Localization	Membrane; Multi-pass membrane protein. Cell membrane; Multi-pass membrane protein. Cell surface.
Tissue Specificity	Widely expressed. Relatively high expression in the CNS, including regions of the limbic system, in kidney, pancreas, skeletal muscle, uterus and testis.
Source	Eukaryota
Contents	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg NaN ₃ .
Immunogen	A synthetic peptide corresponding to a sequence of human FZD3 (MPNLLNHYDQQTAALAMEPFHMPVNLDCSRDFRPFL).
Cross Reactivity	No cross reactivity with other proteins.
Storage	At -20 °C; for one year. After reconstitution, at 4 °C; for one month. It can also be aliquotted and stored frozen at -20 °C; for a longer time. Avoid repeated freezing and thawing.

Protein Information

Name	FZD3
Function	Receptor for Wnt proteins. Most of frizzled receptors are coupled to the beta-catenin canonical signaling pathway, which leads to the activation of disheveled proteins, inhibition of GSK-3 kinase, nuclear accumulation of beta-catenin and activation of Wnt target genes. A second signaling pathway involving PKC and calcium fluxes has been seen for some family members, but it is not yet clear if it represents a distinct pathway or if it can be integrated in the canonical pathway, as PKC seems to be required for Wnt-mediated inactivation of GSK-3 kinase. Both pathways seem to involve interactions with G proteins. Activation by Wnt5A stimulates PKC activity via a G protein-dependent mechanism. Involved in transduction and intercellular transmission of polarity information during tissue morphogenesis and/or in differentiated tissues. Plays a role in controlling early axon growth and guidance processes necessary for the formation of a subset of central and peripheral major fiber tracts. Required for the development of major fiber tracts in the central nervous system, including: the anterior commissure, the corpus callosum, the thalamocortical, corticothalamic and nigrostriatal tracts, the corticospinal tract, the fasciculus retroflexus, the mammillothalamic tract, the medial lemniscus, and ascending fiber tracts from the spinal cord to the brain. In the peripheral nervous system, controls axon growth in distinct populations of cranial and spinal motor neurons, including the facial branchiomotor nerve, the hypoglossal nerve, the phrenic nerve, and motor nerves innervating dorsal limbs. Involved in the migration of cranial neural crest cells. May also be implicated in the transmission of sensory information from the trunk and limbs to the brain. Controls commissural sensory axons guidance after midline crossing along the anterior-posterior axis in the developing spinal cord in a Wnt-dependent signaling pathway. Together with FZD6, is involved in the neural tube closure and plays a role in the regulation of the establishment of planar cell polarity (PCP), particularly in the orientation of asymmetric bundles of stereocilia on the apical faces of a subset of auditory and vestibular sensory cells located in the inner ear. Promotes neurogenesis by maintaining sympathetic neuroblasts within the cell cycle in a beta- catenin-dependent manner (By similarity).
Cellular Location	Membrane; Multi-pass membrane protein. Cell membrane; Multi-pass membrane protein. Cell surface {ECO:0000250 UniProtKB:Q61086}. Apical cell membrane {ECO:0000250 UniProtKB:Q61086}; Multi-pass membrane protein Note=Colocalizes with FZD6 at the apical face of the cell (By similarity). {ECO:0000250 UniProtKB:Q61086}
Tissue Location	Widely expressed. Relatively high expression in the CNS, including regions of the limbic system, in kidney, pancreas, skeletal muscle, uterus and testis

Background

Frizzled-3 is a protein that in humans is encoded by the FZD3 gene. This gene is a member of the frizzled gene family. Members of this family encode seven-transmembrane domain proteins that are receptors for the wingless type MMTV integration site family of signaling proteins. Most frizzled receptors are coupled to the beta-catenin canonical signaling pathway. The function of this protein is unknown, although it may play a role in mammalian hair follicle development. Alternative splicing results in multiple transcript variants. This gene is a susceptibility locus for schizophrenia.

Images

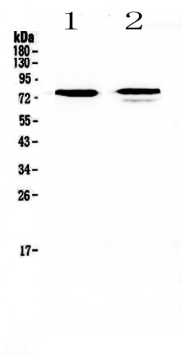


Figure 1. Western blot analysis of FZD3 using anti-FZD3 antibody (ABO13035). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: human SK-OV-3 cell lysates, Lane 2: human Jurkat cell lysates. After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-FZD3 antigen affinity purified polyclonal antibody (Catalog # ABO13035) at 0.5 μ g/mL overnight at 4 $^{\circ}$ C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for FZD3 at approximately 76KD. The expected band size for FZD3 is at 76KD.

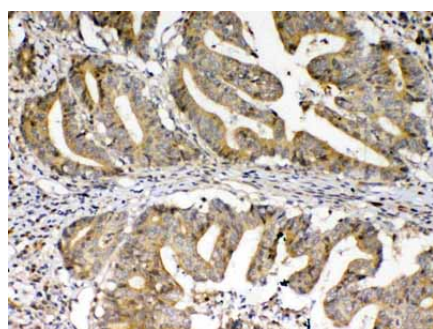


Figure 2. IHC analysis of FZD3 using anti-FZD3 antibody (ABO13035). FZD3 was detected in paraffin-embedded section of human colon cancer tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 μ g/ml rabbit anti-FZD3 Antibody (ABO13035) overnight at 4 $^{\circ}$ C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 $^{\circ}$ C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.

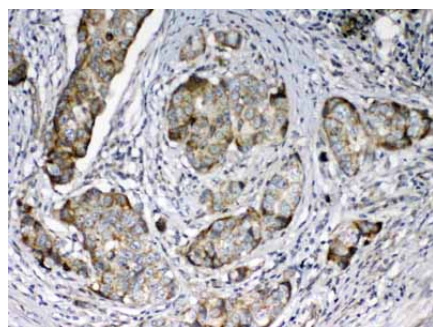


Figure 3. IHC analysis of FZD3 using anti-FZD3 antibody (ABO13035). FZD3 was detected in paraffin-embedded section of human mammary cancer tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 μ g/ml rabbit anti-FZD3 Antibody (ABO13035) overnight at 4 $^{\circ}$ C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 $^{\circ}$ C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.

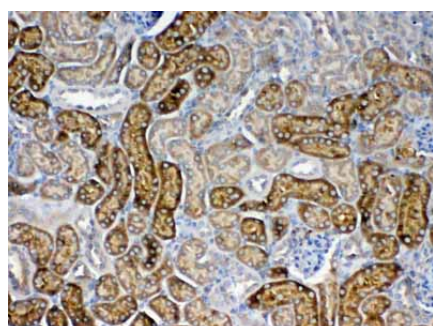


Figure 4. IHC analysis of FZD3 using anti-FZD3 antibody (ABO13035). FZD3 was detected in paraffin-embedded section of mouse kidney tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 μ g/ml rabbit anti-FZD3 Antibody (ABO13035) overnight at 4 $^{\circ}$ C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 $^{\circ}$ C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.

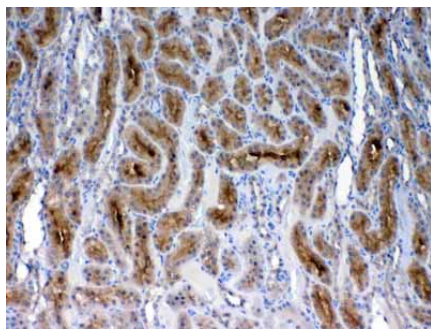


Figure 5. IHC analysis of FZD3 using anti-FZD3 antibody (ABO13035). FZD3 was detected in paraffin-embedded section of rat kidney tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 μ g/ml rabbit anti-FZD3 Antibody (ABO13035) overnight at 4 $^{\circ}$ C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 $^{\circ}$ C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.

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