

## Product datasheet

# Anti-Frizzled 4 antibody [22HCLC] ab277797

Recombinant

4 Images

### Overview

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<b>Product name</b>	Anti-Frizzled 4 antibody [22HCLC]
<b>Description</b>	Rabbit recombinant multiclonal [22HCLC] to Frizzled 4
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> ICC, IHC-P, WB
<b>Species reactivity</b>	<b>Reacts with:</b> Human
<b>Immunogen</b>	Recombinant fragment corresponding to Human Frizzled 4 aa 1-250. Database link: <a href="#">Q9ULV1</a>
<b>Positive control</b>	WB: HCT 116, membrane extract of HCT116, T47D, membrane extract of T47D. IHC-P: Human kidney tissue. ICC:T-47D cells.
<b>General notes</b>	<p>Recombinant multiconals are a mixture of recombinant antibodies co-expressed from a library of heavy and light chains.</p> <p>Recombinant multiclonal antibodies offer the sensitivity of polyclonal antibodies by recognising multiple epitopes, along with consistency of a recombinant antibody.</p>

### Properties

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<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Store at -20°C long term. Avoid freeze / thaw cycle.
<b>Storage buffer</b>	pH: 7.2 Preservative: 0.09% Sodium azide Constituent: 99.91% PBS
<b>Purity</b>	Protein A purified
<b>Clonality</b>	Recombinant Multiclonal
<b>Clone number</b>	22HCLC
<b>Isotype</b>	IgG

### Applications

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## The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab277797 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC		Use a concentration of 2 µg/ml.
IHC-P		1/100. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
WB		Use a concentration of 1 - 2 µg/ml. Predicted molecular weight: 60 kDa.

## Target

### Function

Receptor for Wnt proteins. Most of frizzled receptors are coupled to the beta-catenin (CTNNB1) canonical signaling pathway, which leads to the activation of disheveled proteins, inhibition of GSK-3 kinase, nuclear accumulation of beta-catenin (CTNNB1) and activation of Wnt target genes. Plays a critical role in retinal vascularization by acting as a receptor for Wnt proteins and norrin (NDP). In retina, it can be both activated by Wnt protein-binding, but also by a Wnt-independent signaling via binding of norrin (NDP), promoting in both cases beta-catenin (CTNNB1) accumulation and stimulation of LEF/TCF-mediated transcriptional programs. 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. May be involved in transduction and intercellular transmission of polarity information during tissue morphogenesis and/or in differentiated tissues.

### Tissue specificity

Almost ubiquitous. Largely expressed in adult heart, skeletal muscle, ovary, and fetal kidney. Moderate amounts in adult liver, kidney, pancreas, spleen, and fetal lung, and small amounts in placenta, adult lung, prostate, testis, colon, fetal brain and liver.

### Involvement in disease

Defects in FZD4 are the cause of vitreoretinopathy exudative type 1 (EVR1) [MIM:133780]; also known as autosomal dominant familial exudative vitreoretinopathy (FEVR) or Criswick-Schepens syndrome. EVR1 is a disorder of the retinal vasculature characterized by an abrupt cessation of growth of peripheral capillaries, leading to an avascular peripheral retina. This may lead to compensatory retinal neovascularization, which is thought to be induced by hypoxia from the initial avascular insult. New vessels are prone to leakage and rupture causing exudates and bleeding, followed by scarring, retinal detachment and blindness. Clinical features can be highly variable, even within the same family. Patients with mild forms of the disease are asymptomatic, and their only disease-related abnormality is an arc of avascular retina in the extreme temporal periphery.

### Sequence similarities

Belongs to the G-protein coupled receptor Fz/Smo family.

Contains 1 FZ (frizzled) domain.

### Domain

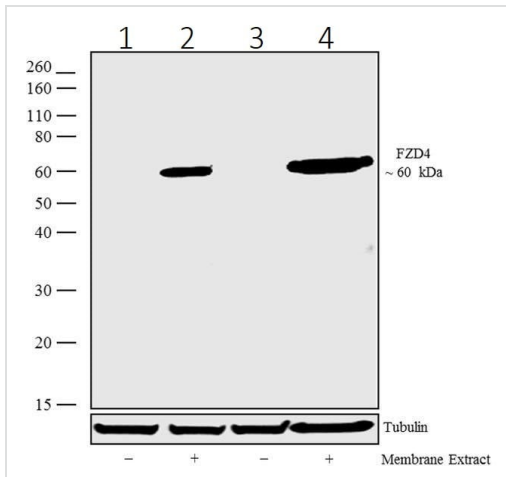
Lys-Thr-X-X-X-Trp motif interacts with the PDZ domain of Dvl (Disheveled) family members and is involved in the activation of the Wnt/beta-catenin signaling pathway.

The FZ domain is involved in binding with Wnt ligands.

### Cellular localization

Membrane. Cell membrane.

## Images



Western blot - Anti-Frizzled 4 antibody (ab277797)

**All lanes :** Anti-Frizzled 4 antibody [22HCLC] (ab277797) at 2  $\mu\text{g/ml}$

**Lane 1 :** HCT 116 cell extract

**Lane 2 :** HCT116 membrane extract

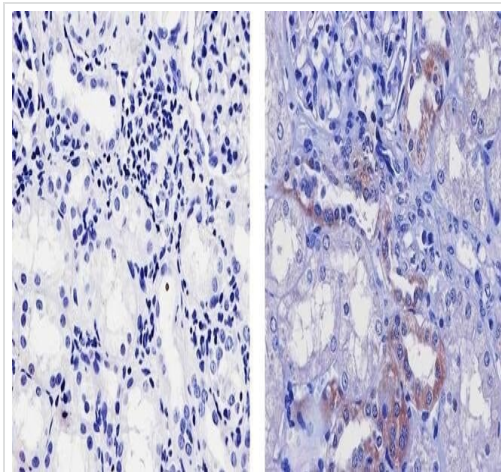
**Lane 3 :** T47D cell extract

**Lane 4 :** T47D membrane extract

### Secondary

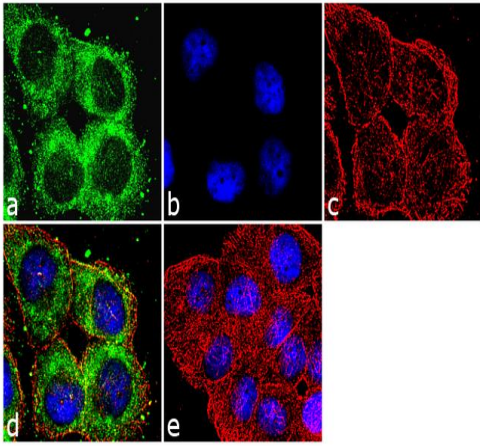
**All lanes :** Goat anti-Rabbit IgG (H+L) Superclonal HRP conjugate at 1/2500 dilution

**Predicted band size:** 60 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Frizzled 4 antibody (ab277797)

Immunohistochemistry analysis of FZD4 showing staining in the cytoplasm of paraffin-embedded human kidney tissue (right) compared to a negative control without primary antibody (left). To expose target proteins, antigen retrieval was performed using 10mM sodium citrate (pH 6.0), microwaved for 8-15 minutes. Following antigen retrieval, tissues were blocked in 3%  $\text{H}_2\text{O}_2$ -methanol for 15 minutes at room temperature, washed with dd $\text{H}_2\text{O}$  and PBS, and then probed with a FZD4 Recombinant Rabbit Multiclonal Antibody (ab277797) diluted in 3% BSA-PBS at a dilution of 1/100 for 1 hour at 37°C in a humidified chamber. Tissues were washed extensively in PBST and detection was performed using an HRP-conjugated secondary antibody followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin and dehydrated with ethanol and xylene to prep for mounting.



Immunocytochemistry - Anti-Frizzled 4 antibody (ab277797)

Immunofluorescence was performed on fixed and permeabilized T-47D cells for detection of FZD-4 using Anti-FZD-4 Recombinant Rabbit Multiclonal Antibody (ab277797, 2 µg/mL) and labeled with Goat anti-Rabbit IgG (H+L) Superclonal™ Secondary Antibody, Alexa Fluor® 488 conjugate (1/2000). Panel a) shows representative cells that were stained for detection and localization of FZD-4 protein (green), Panel b) is stained for nuclei (blue) using SlowFade® Gold Antifade Mountant with DAPI. Panel c) represents cytoskeletal F-actin staining using Alexa Fluor® 555 Rhodamine Phalloidin (1/300). Panel d) is a composite image of Panels a, b and c clearly demonstrating cytoplasmic localization of FZD-4. Panel e) represents control cells with no primary antibody to assess background.

### Why choose a recombinant antibody?

 <b>Research with confidence</b> Consistent and reproducible results	 <b>Long-term and scalable supply</b> Recombinant technology
 <b>Success from the first experiment</b> Confirmed specificity	 <b>Ethical standards compliant</b> Animal-free production

Anti-Frizzled 4 antibody [22HCLC] (ab277797)

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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