

## Rabbit Anti-DACT1 antibody

SL10304R

**Product Name** DACT1

**Chinese Name** 肝癌新基因 3 蛋白抗体

**Alias** Dact1 / Dapper homolog 1; Dact; Dact1; DACT1\_HUMAN; Dapper antagonist of beta catenin homolog 1; Dapper antagonist of catenin 1; Dapper antibodyDapper homolog 1; DAPPER1; Dpr antibodyDpr1; Frd; Frodo; hDPR1; Hepatocellular carcinoma novel gene 3 protein; Heptacellular carcinoma novel gene 3; HNG3; MTNG3; Thyex3.

**Immunogen Species** Rabbit

**Clonality** Polyclonal

**React Species** Human, (predicted: Mouse, Rat, Dog, Cow, Horse, Rabbit, )

ICC/IF=1:100-500 (Paraffin sections need antigen repair)

**Applications** not yet tested in other applications.  
optimal dilutions/concentrations should be determined by the end user.

**Theoretical molecular weight** 90kDa

**Cellular localization** The nucleus cytoplasmic Extracellular matrix

**Form** Liquid

**Concentration** 1mg/ml

**immunogen** KLH conjugated synthetic peptide derived from human DACT1: 751-836/836

**Lsotype** IgG

**Purification** affinity purified by Protein A

**Buffer Solution** 1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.

**Storage** Shipped at 4°C. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.

**Attention** This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

**PubMed** [PubMed](#)

**Product** The protein encoded by this gene belongs to the dapper family, characterized by the

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**Detail**

presence of PDZ-binding motif at the C-terminus. It interacts with, and positively regulates dishevelled-mediated signaling pathways during development. Depletion of this mRNA from xenopus embryos resulted in loss of notochord and head structures, and mice lacking this gene died shortly after birth from severe posterior malformations. Alternatively spliced transcript variants have been found for this gene. [provided by RefSeq, Jan 2012]

**Function:**

Involved in regulation of intracellular signaling pathways during development. Specifically thought to play a role in canonical and/or non-canonical Wnt signaling pathways through interaction with DSH (Dishevelled) family proteins. The activation/inhibition of Wnt signaling may depend on the phosphorylation status. Proposed to regulate the degradation of CTNNB1/beta-catenin, thereby modulating the transcriptional activation of target genes of the Wnt signaling pathway. Its function in stabilizing CTNNB1 may involve inhibition of GSK3B activity. Promotes the membrane localization of CTNNB1. The cytoplasmic form can induce DVL2 degradation via a lysosome-dependent mechanism; the function is inhibited by PKA-induced binding to 14-3-3 proteins, such as YWHAB. Seems to be involved in morphogenesis at the primitive streak by regulating VANGL2 and DVL2; the function seems to be independent of canonical Wnt signaling and rather involves the non-canonical Wnt/planar cell polarity (PCP) pathway (By similarity). The nuclear form may prevent the formation of LEF1:CTNNB1 complex and recruit HDAC1 to LEF1 at target gene promoters to repress transcription thus antagonizing Wnt signaling. May be involved in positive regulation of fat cell differentiation. During neuronal differentiation may be involved in excitatory synapse organization, and dendrite formation and establishment of spines.

**Subunit:**

Can form homodimers and heterodimers with DACT2 or DACT3. Interacts with CSNK1D, PKA catalytic subunit, PKC-type kinase, CSNK2A1, CSNK2B, DVL1, DVL3, VANGL1, VANGL2, CTNND1 and HDAC1 (By similarity). Interacts with DVL2. Interacts with YWHAB; the interaction is enhanced by PKA phosphorylating DACT1 at Ser-237 and Ser-827. Interacts with CTNNB1 and HDAC1. Interacts with GSK3B; the interaction is indicative for an association of DACT1 with the beta-catenin destruction complex. Interacts with GSK3A.

**Subcellular Location:**

Cytoplasm. Nucleus. Cell junction, synapse. Note=Shuttles between the nucleus and the cytoplasm. Seems to be nuclear in the absence of Wnt signaling and to translocate to the cytoplasm in its presence.

**Post-translational modifications:**

**DISEASE:**

Defects in DACT1 may be a cause of susceptibility to neural tube defects (NTD) [MIM:182940]. NTD are congenital malformations of the central nervous system and adjacent structures related to defective neural tube closure during the first trimester of pregnancy. Failure of neural tube closure can occur at any level of the embryonic axis. Common NTD forms include anencephaly, myelomeningocele and spina bifida, which result from the failure of fusion in the cranial and spinal region of the neural tube. NTDs have a multifactorial etiology encompassing both genetic and environmental components.

**Similarity:**

Belongs to the dapper family.

**SWISS:**

Q9NYF0

**Gene ID:**

51339

**Database links:**

[Entrez Gene: 51339](#) Human

[Entrez Gene: 59036](#) Mouse

[Entrez Gene: 500666](#) Rat

[Entrez Gene: 723789](#) Chicken

[Omim: 607861](#) Human

[SwissProt: Q9NYF0](#) Human

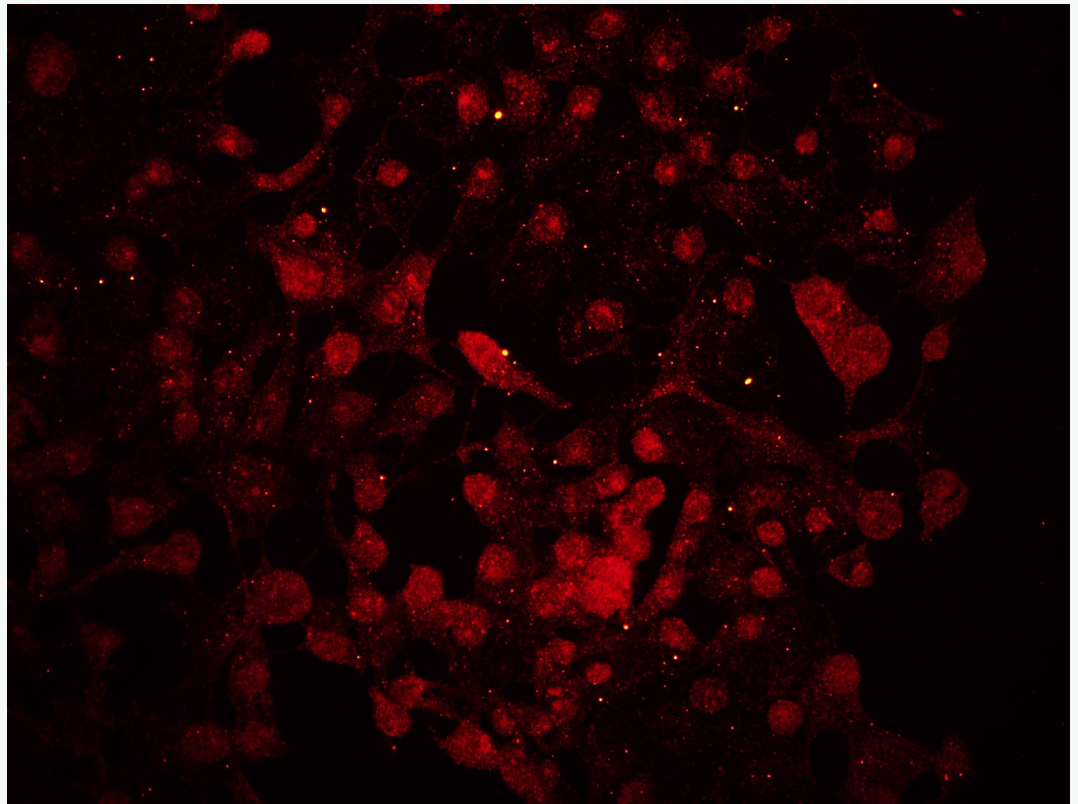
[SwissProt: Q8R4A3](#) Mouse

[Unigene: 48950](#) Human

[Unigene: 714204](#) Human

[Unigene: 46662](#) Mouse

**Product  
Picture**



Tissue/cell: human HepG2 cells;4% Paraformaldehyde-fixed and paraffin-embedded;

Antigen retrieval: citrate buffer ( 1M, pH 6.0 ), Boiling bathing for 15min;

Blocking buffer (normal goat serum,C-0005) at 37°C for 20 min;

Incubation: Anti-DACT1 Polyclonal Antibody, Unconjugated(SL10304R) 1:200, overnight at 4°C; The secondary antibody was Goat Anti-Rabbit IgG, Cy3 conjugated(SL0295G-Cy3)used at 1:200 dilution for 40 minutes at 37°C.