

Product datasheet for **KN303967RB**

Ctnnb1 Mouse Gene Knockout Kit (CRISPR)

Product data:

Product Type: Knockout Kits (CRISPR)

Format: 2 gRNA vectors, 1 RFP-BSD donor, 1 scramble control

Donor DNA: RFP-BSD

Symbol: Ctnnb1

Locus ID: 12387

Components: **KN303967G1**, Ctnnb1 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002)
KN303967G2, Ctnnb1 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002)
KN303967RBD, donor DNA containing left and right homologous arms and RFP-BSD functional cassette.
GE100003, scramble sequence in pCas-Guide vector

Disclaimer: These products are manufactured and supplied by OriGene under license from ERS. The kit is designed based on the best knowledge of CRISPR technology. The system has been functionally validated for knocking-in the cassette downstream the native promoter. The efficiency of the knock-out varies due to the nature of the biology and the complexity of the experimental process.

RefSeq: [NM_001165902](#), [NM_007614](#)

UniProt ID: [Q02248](#)

Synonyms: Bfc; Catnb; Mesc



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Summary:

This gene encodes not only an important cytoplasmic component of the classical cadherin adhesion complex that forms the adherens junction in epithelia and mediates cell-cell adhesion in many other tissues but also a key signaling molecule in the canonical Wnt signaling pathway that controls cell growth and differentiation during both normal development and tumorigenesis. The gene product contains a central armadillo-repeat containing domain through which it binds the cytoplasmic tail of classical cadherins; meanwhile, it also binds alpha-catenin, which further links the cadherin complex to the actin cytoskeleton either directly or indirectly. Beta-catenin is therefore necessary for the adhesive function of classical cadherins. Another key function of this protein is to mediate the canonical Wnt signaling pathway and regulate gene transcription. Without Wnt signal, cytoplasmic beta-catenin that is not associated with the cadherin complex is quickly phosphorylated at the N-terminal Ser/Thr residues by the so called degradation complex containing axin, adenomatous polyposis coli (APC), casein kinase I, and GSK3B, then ubiquitinated by beta-TrCP, and degraded by the proteasome. However, in the presence of Wnt signal, the degradation complex is disrupted and the stabilized cytoplasmic beta-catenin translocates into the nucleus, where it binds various transcription factors and, together with these factors, regulates the transcription of many downstream genes. Mutations of this gene have been linked with various types of tumors. Alternatively spliced variants have been found for this gene. [provided by RefSeq, Sep 2009]

Product images:
