Technical Data Sheet

PE Mouse anti-β-Catenin (pS45)

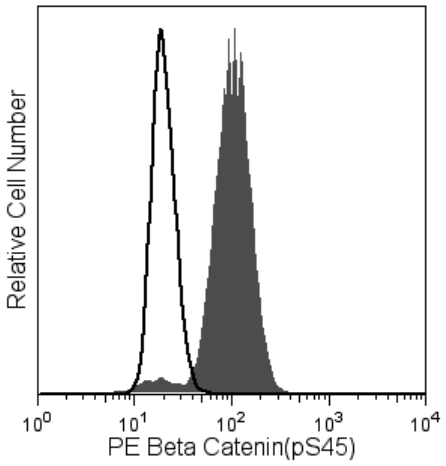
Product Information

Material Number:	**558638**
Size:	50 tests
Vol. per Test:	20 µl
Clone:	K63-363
Immunogen:	Phosphorylated Human β-Catenin Peptide
Isotype:	Mouse (BALB/c) IgG1, κ
Reactivity:	Tested: Human Predicted: Mouse, Rat
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

β-catenin is a 92-kDa protein that binds to the cytoplasmic tail of E-Cadherin. The cadherins, transmembrane adhesion molecules, are found with catenins at adherens junctions (zonula adherens). Deletions in the cytoplasmic domain of E-Cadherin that eliminate β-catenin binding also result in a loss of cell adhesion, indicating that this binding is essential for E-Cadherin function. β-catenin is also a signaling molecule in the Wnt pathway that controls many aspects of cellular development by regulating gene transcription in association with the T cell factor/lymphocyte enhancer factor (TCF/LEF) transcriptional activator complex. Phosphorylation of β-catenin by glycogen synthase kinase-3 (GSK-3) controls the intracellular levels of β-catenin by inhibiting its ubiquitination and degradation. The resulting accumulation of β-catenin is associated with and may cause a variety of cancers. Multiple regulatory mechanisms control cellular homeostasis by regulating the levels of β-catenin.

The K63-363 monoclonal antibody recognizes β-catenin phosphorylated at serine 45 (pS45) in the consensus GSK-3 phosphorylation site.



Analysis of β–Catenin (pS45) in human vascular endothelium. *After serum starvation overnight, EA-hy 926 cells (Edgell, McDonald, Graham, 1983)) were either stimulated with 50 nM calyculin A (Calbiochem Cat. No. 208851, shaded histogram) for 30 minutes at 37°C or unstimulated (open histogram). The cells were fixed (BD Cytofix™ buffer, Cat. No. 554655) for 10 minutes at 37°C, then permeabilized (BD™ Phosflow Perm Buffer III, Cat. No. 558050) on ice for at least 30 minutes, and then stained with PE Mouse anti-β-Catenin (pS45). Flow cytometry was performed on a BD™ FACSCalibur flow cytometry system.*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

The antibody was conjugated with R-PE under optimum conditions, and unconjugated antibody and free PE were removed by gel filtration chromatography.

Store undiluted at 4° C and protected from prolonged exposure to light. Do not freeze.

Application Notes

Application

Intracellular staining (flow cytometry)	Routinely Tested

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Suggested Companion Products

Catalog Number	Name	Size	Clone
554655	Fixation Buffer	100 ml	(none)
558050	Perm Buffer III	125 ml	(none)

Product Notices

1. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
2. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1 X 10e6 cells in a 100-µl experimental sample (a test).
3. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/pharmingen/colors.
4. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
5. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

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Levina E, Oren M, Ben-Ze'ev A. Downregulation of β-catenin by p53 involves changes in the rate of β-catenin phosphorylation and axin dynamics. *Oncogene.* 2004; 23(25):4444-4453.(Biology)

Liu C, Li Y, Semenov M, et al. Control of β-catenin phosphorylation/degradation by a dual-kinase mechanism. *Cell.* 2002; 108:837-847.(Biology)

Xiong Y, Kotake Y. No exit strategy? No problem: APC inhibits β-catenin inside the nucleus. *Genes Dev.* 2006; 20:637-642.(Biology)

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