Revision 3

Store at -20C

#48111

Cadherin-6 (D3T3I) Rabbit mAb

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, IHC-P, FC-FP	H Mk	Endogenous	130	Rabbit IgG	#P55285	1004

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50
Immunohistochemistry (Paraffin)	1:800
Flow Cytometry (Fixed/Permeabilized)	1:1600

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

For a carrier free (BSA and azide free) version of this product see product #84079.

Specificity/Sensitivity

Cadherin-6 (D3T3I) Rabbit mAb recognizes endogenous levels of total cadherin-6 protein. Staining of peripheral nerves and limited staining of immune cells has been observed. The specificity of this staining is unknown.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Asp761 of human cadherin-6 protein.

Background

Cadherins are a superfamily of transmembrane glycoproteins that contain cadherin repeats of approximately 100 residues in their extracellular domain. Cadherins mediate calcium-dependent cell-cell adhesion and play critical roles in normal tissue development (1). The classic cadherin subfamily includes N-, P-, R-, B-, and E-cadherins, as well as about ten other members that are found in adherens junctions, a cellular structure near the apical surface of polarized epithelial cells. The cytoplasmic domain of classical cadherins interacts with β-catenin, γ-catenin (also called plakoglobin), and p120 catenin. β-catenin and γ-catenin associate with α-catenin, which links the cadherin-catenin complex to the actin cytoskeleton (1,2). While β- and γ-catenin play structural roles in the junctional complex, p120 regulates cadherin adhesive activity and trafficking (1-4). Investigators consider E-cadherin an active suppressor of invasion and growth of many epithelial cancers (1-3). Research studies indicate that cancer cells have upregulated N-cadherin in addition to loss of E-cadherin. This change in cadherin expression is called the "cadherin switch." N-cadherin cooperates with the FGF receptor, leading to overexpression of MMP-9 and cellular invasion (3). Research studies have shown that in endothelial cells, VE-cadherin signaling, expression, and localization correlate with vascular permeability and tumor angiogenesis (5,6). Investigators have also demonstrated that expression of P-cadherin, which is normally present in epithelial cells, is also altered in ovarian and other human cancers (7,8). Cadherin-6, also known as kidney cadherin (K-Cadherin, CDH6) is a type II classical cadherin. While it was reported to have a tumor suppressor function in cholangiocarcinoma (9), cadherin-6 expression was shown to be a marker of epithelial mesenchymal transition, and positively correlated with stage and metastasis of papillary thyroid carcinoma (10, 11). In related studies, cadherin-6 was shown to interact with GABARAP and related proteins to restrain autophagy, thereby promoting metastatic behavior (12). Cadherin-6 has since been proposed as an antibody-drug conjugate target for the treatment of ovarian and renal cancers (13).

Background References

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6. Yamaoka-Tojo, M. et al. (2006) *Arterioscler Thromb Vasc Biol* 26, 1991-7.
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8. Sanders, D.S. et al. (2000) *J Pathol* 190, 526-30.
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10. Zhao, L. et al. (2016) *Clin Endocrinol (Oxf)* 84, 748-55.
11. Sancisi, V. et al. (2013) *PLoS One* 8, e75489.
12. Gugnoni, M. et al. (2017) *Oncogene* 36, 667-677.

13. Bialucha, C.U. et al. (2017) *Cancer Discov* 7, 1030-1045.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation **IHC-P:** Immunohistochemistry (Paraffin) **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

H: Human **Mk:** Monkey

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Limited Uses