Revision 1

Store at -20C

#62831

Claudin-6 (E2S5M) 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, IF-IC	H	Endogenous	23	Rabbit IgG	#P56747	9074

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100
Immunofluorescence (Immunocytochemistry)	1:400 - 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.*

Specificity/Sensitivity

Claudin-6 (E2S5M) Rabbit mAb recognizes endogenous levels of total Claudin-6 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human Claudin-6 protein.

Background

Tight junctions, or zonula occludens, form a continuous barrier to fluids across the epithelium and endothelium. They function in regulation of paracellular permeability and in the maintenance of cell polarity, blocking the movement of transmembrane proteins between the apical and the basolateral cell surfaces. Tight junctions are composed of claudin and occludin proteins, which join the junctions to the cytoskeleton (1,2). The claudin family is composed of 23 integral membrane proteins, and their expression, which varies among tissue types, may determine both the strength and properties of the epithelial barrier. Alteration in claudin protein expression pattern is associated with several types of cancer (2,3). Claudin-1 is expressed primarily in keratinocytes (4) and normal mammary epithelial cells, but is absent or reduced in breast carcinomas and breast cancer cell lines (5,6).

Claudin-6 is a member of the CLDN family that is expressed in epithelial cell sheets. Downregulation of Claudin-6 has been reported in breast invasive ductal carcinoma associated with lymphatic metastasis which may point to a function of Claudin-6 as a tumor suppressor. Claudin-6 is reported to play a role in inhibiting malignancy of breast cancer cells by inducing apoptosis, inhibiting proliferation and migration. Mechanisms of action of Claudin-6 have been described through various signaling pathways such as p38-MAPK, JAKs-STATs, ASK1-JNK, and other pathways (7,8). Regulation of Claudin-6 expression may occur through epigenetic mechanisms (9).

Other reports describe aberrant expression in various malignancies (10,11). The clinical significance of Claudin-6 dysregulation has created interest in the potential for pharmaceutical intervention (12-14).

Background References

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5. Krämer, F. et al. (2000) *Hum Genet* 107, 249-56.
6. Swisshelm, K. et al. (1999) *Gene* 226, 285-95.
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8. Guo, Y. et al. (2016) *Int J Oncol* 48, 2435-44.
9. Liu, Y. et al. (2016) *J Exp Clin Cancer Res* 35, 120.
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11. Torres-Martínez, A.C. et al. (2017) *Exp Cell Res* 350, 226-35.
12. Micke, P. et al. (2014) *Int J Cancer* 135, 2206-14.
13. Ben-David, U. et al. (2013) *Nat Commun* 4, 1992.
14. Schneider, I.C. et al. (2018) *Biotechnol J* 13, e1700345.

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 **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human

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Limited Uses