Revision 1

Store at -20C

#70458

COL11A1 (E6O7R) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H	Endogenous	250	Rabbit IgG	#P12107	1301

Product Usage Information

Application	Dilution
Western Blotting	1:1000

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

COL11A1 (E6O7R) Rabbit mAb recognizes endogenous levels of total COL11A1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Glu320 of human COL11A1 protein.

Background

The Extracellular Matrix (ECM) is a complex network of macromolecules that provides structural tissue support to cells in the basement membrane and interstitial matrix. It is composed of many molecules, including proteins, glycoproteins, proteoglycans, and polysaccharides (1,2). One of the major proteins that comprise the ECM, and the human body, is collagen. Collagens are a large family of proteins. They are trimeric molecules composed of three alpha polypeptide chains that form a triple helix structure that is characteristic of all collagens (3). The large family of collagens is divided into three subgroups: the fibrillar collagens, the non-fibril forming collagens, and the fibril-associated collagens. These subgroups differ in their structure and supramolecular assembly (3).

Collagen11A1 (COL11A1) is a minor fibrillar collagen that is not normally expressed at high levels in most normal tissues with the exception of cartilage, where it is expressed in high levels, and some other tissues/ organs, where it is expressed at a lower level (4). However, it has been reported that the expression of this molecule is correlated with advanced tumorigenic disease through meta analysis of data from multiple cancers, including ovarian, colon, breast, and lung (5). Additionally, it has also been associated with epithelial-mesenchymal transition (EMT) and metastasis (6,7). Cancer associated fibroblasts (CAFs) are typically the most abundant cell type in the stroma of many solid tumors. They are thought to contribute to ECM stiffness, which is ultimately thought to contribute to tumor growth and resistance to chemotherapeutic intervention. COL11A1 has been found to be elevated in CAFs and may contribute to chemotherapy resistance (8).

Background References

1. Barkan, D. et al. (2010) *Eur J Cancer* 46, 1181-8.
2. Hynes, R.O. (2009) *Science* 326, 1216-9.
3. Ricard-Blum, S. (2011) *Cold Spring Harb Perspect Biol* 3, a004978.
4. Yoshioka, H. et al. (1995) *Dev Dyn* 204, 41-7.
5. Kim, H. et al. (2010) *BMC Med Genomics* 3, 51.
6. Cheon, D.J. et al. (2014) *Clin Cancer Res* 20, 711-23.
7. Fuentes-Martínez, N. et al. (2015) *Histol Histopathol* 30, 87-93.
8. Sok, J.C. et al. (2013) *Br J Cancer* 109, 3049-56.

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

Cross-Reactivity Key

H: Human

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