Revision 1

Store at -20C

#46379

Cavin-1 (D8C1D) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, IF-IC	H	Endogenous	50	Rabbit IgG	#Q6NZI2	284119

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50
Immunofluorescence (Immunocytochemistry)	1:800

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

Cavin-1 (D8C1D) Rabbit mAb recognizes endogenous levels of total cavin-1 protein. Based on the sequence of the immunogenic peptide, this antibody is not expected to cross-react with other cavin family members.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala353 of human cavin-1 protein.

Background

Caveolae ("little caves") are 60-80 nm pits representing specialized plasma membrane domains in many cell types. The principal protein component of caveolae is caveolin, a small integral membrane protein composed of three family members, including the widely expressed caveolin-1 and -2, and the muscle-specific caveolin-3 (1). Caveolin proteins are required for caveolae formation and serve as scaffolding proteins for the recruitment of signaling proteins. Research studies in cavelolin-deficient mice implicate cavelolin proteins in several pathologies, including diabetes, cancer, cardiovascular diseases, atherosclerosis, pulmonary disease, and muscular dystrophies (2).
The cavin proteins (cavin-1, -2, -3, and -4 in mammals) are a family of caveolae-associated integral membrane proteins involved in the biogenesis and stability of caveolae. Cavin proteins form homo- or hetero-oligomers whose composition is tissue-specific, which may confer distinct functions of caveolae in various tissues (3). Cavin-1 (PTRF), which is widely expressed, is required for caveolae formation and is thought to play roles in lipid metabolism, adipocyte differentiation, and IGF-1 receptor signaling (4-6). Research studies involving prostate cancer suggest that expression of cavin-1 is related to tumor progression and angiogenesis/lymphangiogenesis (7-8).

Background References

1. Bastiani, M. and Parton, R.G. (2010) *J Cell Sci* 123, 3831-6.
2. Cohen, A.W. et al. (2004) *Physiol Rev* 84, 1341-79.
3. Kovtun, O. et al. (2015) *J Cell Sci* 128, 1269-78.
4. Ding, S.Y. et al. (2014) *J Biol Chem* 289, 8473-83.
5. Perez-Diaz, S. et al. (2014) *FASEB J* 28, 3769-79.
6. Hamoudane, M. et al. (2013) *J Endocrinol Invest* 36, 204-8.
7. Nassar, Z.D. et al. (2013) *Nat Rev Urol* 10, 529-36.
8. Nassar, Z.D. et al. (2013) *Oncotarget* 4, 1844-55.

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 nonfat dry milk, 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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