

SMCR8 Antibody

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H M R	Endogenous	140-150	Rabbit	#Q8TEV9	140775

Product Usage Information**Application**

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

Storage

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

Specificity/Sensitivity

SMCR8 Antibody recognizes endogenous levels of total SMCR8 protein. A band of unknown origin is detected at around 70 kDa.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala540 of human SMCR8 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

SMCR8 (Smith-Magenis chromosome region 8) was characterized as a member of the DENN (differentially expressed in normal and neoplastic cells) domain family that typically function in intracellular membrane trafficking as guanine exchange factors for Rab GTPases (1). Deletion of the *SMCR8* gene was found in patients having Smith-Magenis syndrome, a rare developmental disorder (2,3). SMCR8 interacts with another DENN protein C9orf72, and the WD repeat containing protein WDR41, that function as a guanine exchange factor for Rab8a and Rab39b and regulate autophagy (4). Interestingly, C9orf72 is also associated with neurodegenerative diseases including amyotrophic lateral sclerosis (ALS) and frontotemporal dementia (FTD) (5,6). C9orf72 and SMCR8 were found to have multifaceted roles in autophagy and lysosomal signaling (reviewed 7). SMCR8 can be phosphorylated by kinases with roles in autophagy including TBK1 and ULK1 (4). Indeed, the complex containing C9orf72, SMCR8, and WDR41 associates with the ULK1 complex essential for initiation of autophagy (8). Furthermore, SMCR8 was found in an RNAi screen as a regulator of ULK1 activity and both initiation and maturation of autophagosomes (9). Knockdown of SMCR8 *in vivo* has led to inflammatory and autoimmune phenotypes as well as inhibition of autophagy, elevated activity of mTORC1 and Akt, and decreased lysosomal biogenesis (10-13).

Background References

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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

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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