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SIGMAR1 (D7L1M) Rabbit mAb**Cell Signaling**
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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB	H M R	Endogenous	25	Rabbit IgG	#Q99720	10280

Product Usage Information	Application Western Blotting	Dilution 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	SIGMAR1 (D7L1M) Rabbit mAb recognizes endogenous levels of total SIGMAR1 protein.	
Source / Purification	Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro70 of human SIGMAR1 protein.	
Background	Sigma non-opioid intracellular receptor 1 (SIGMAR1) is an endoplasmic reticulum (ER) membrane chaperone that forms raft-like microdomains on the ER, where it interacts with mitochondria at the mitochondria-associated ER membrane domain (MAM). At MAM, SIGMAR1 maintains proper ER-mitochondrion Ca ²⁺ signaling, regulates mitochondria function, and enhances cellular survival upon ER stress (1-4). When activated, SIGMAR1 translocates to ER and plasma membrane, where it interacts with a plethora of membrane proteins, including ion channels, neurotransmitter receptors, and kinases. SIGMAR1 also modulates a variety of neuronal functions, such as neuronal excitability, neuroplasticity, neuroprotection, and neurorestoration (5-7). SIGMAR1 binds to many anti-psychotic drugs and it is implicated in addiction, pain, neurodegenerative diseases, and depression (8-11). Recently, mutations in the <i>SIGMAR1</i> gene have been reported to be associated with amyotrophic lateral sclerosis (12,13). Besides its important roles in central nervous system and peripheral nervous system, SIGMAR1 also enhances cancer cell migration and invasion (14,15).	
Background References	<ol style="list-style-type: none"> Hanner, M. et al. (1996) <i>Proc Natl Acad Sci U S A</i> 93, 8072-7. Hayashi, T. and Su, T.P. (2003) <i>J Pharmacol Exp Ther</i> 306, 718-25. Hayashi, T. and Su, T.P. (2007) <i>Cell</i> 131, 596-610. Mori, T. et al. (2013) <i>PLoS One</i> 8, e76941. Griesmaier, E. et al. (2012) <i>Exp Neurol</i> 237, 388-95. Kourrich, S. et al. (2012) <i>Trends Neurosci</i> 35, 762-71. Liu, L.L. et al. (2016) <i>Neuroscience</i> 332, 53-60. Miyatake, R. et al. (2004) <i>Biol Psychiatry</i> 55, 85-90. Choi, S.R. et al. (2017) <i>J Pain</i> 18, 415-427. Huang, Y. et al. (2011) <i>Curr Alzheimer Res</i> 8, 765-70. Mandelli, L. et al. (2017) <i>Adv Ther</i> 34, 713-724. Fukunaga, K. et al. (2015) <i>J Pharmacol Sci</i> 127, 36-41. Al-Saif, A. et al. (2011) <i>Ann Neurol</i> 70, 913-9. Gueguinou, M. et al. (2017) <i>Oncogene</i> 36, 3640-7. Crottès, D. et al. (2016) <i>Cancer Res</i> 76, 607-18. 	

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	WB: Western Blotting

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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