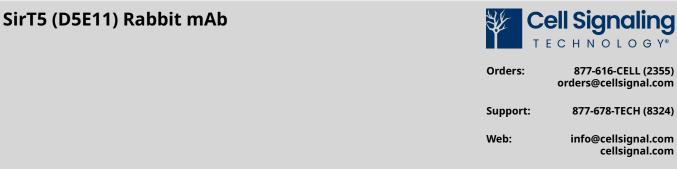
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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W	Reactivity: H M Mk	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 30	<b>Source/Isotype:</b> Rabbit IgG	UniProt ID: #Q9NXA8	Entrez-Gene Id: 23408
Product Usage Information		<b>Application</b> Western Blotting			<b>Dilution</b> 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		SirT5 (D5E11) Rabbit mAb recognizes endogenous levels of total SirT5 protein. This antibody does not cross-react with other sirtuin proteins.				
Source / Purification		Monoclonal antibody is produced by immunizing animals with a recombinant protein specific to the full-length human SirT5 protein.				
Background		The Silent Information Regulator (SIR2) family of genes is a highly conserved group of genes that encode nicotinamide adenine dinucleotide (NAD)-dependent protein deacetylases, also known as Class III histone deacetylases. The first discovered and best characterized of these genes is <i>Saccharomyces</i> <i>cerevisiae</i> Sir2, which is involved in silencing of mating type loci, telomere maintenance, DNA damage response, and cell aging (1). SirT5, a mammalian homolog of Sir2, is localized to the mitochondria and has been implicated in the regulation of cell metabolism (2,3). SirT5 deacetylates carbamoyl phosphate synthetase 1 (CPS1) in the mitochondrial matrix and increases its activity in response to fasting, allowing for adaptation to increased amino acid catabolism (4). SirT5 has also been shown to deacetylate cytochrome c in the mitochondrial intermembrane space (5). In addition to its deacetylase activity, SirT5 contains lysine desuccinylase and demalonylase activity (6,7). Succinyl-lysine and malonyl- lysine modifications occur in a variety of organisms and these post-translational modifications are found on many metabolic enzymes (6-8). Like phosphorylation of serine, threonine, and tyrosine residues, lysine succinylation and malonylation induces a change of two negative charges from a +1 to a -1 charge at physiological pH, and are thought to serve similar functions in the regulation of protein activity, protein-protein interactions, and protein stability. SirT5 knockout mice show increased levels of succinyl-lysine and malonyl-lysine protein modifications in the liver, including increased succinylation of CPS1, a known target of SirT5, suggesting that SirT5 functions to regulate metabolic enzymes through its deacetylase, desuccinylase, and demalonylase activities (6,7).				
Background Re	ferences	1. Guarente, L. (1999) . 2. Newman, J.C. et al. ( 3. He, W. et al. (2012) 7 4. Nakagawa, T. et al. ( 5. Schlicker, C. et al. (20 6. Du, J. et al. (2011) <i>Sc</i> 7. Peng, C. et al. (2011) 8. Zhang, Z. et al. (2011)	2012) J Biol Chem , Trends Endocrinol N 2009) Cell 137, 560 008) J Mol Biol 382, cience 334, 806-9. ) Mol Cell Proteomi	<i>Aetab</i> 23, 467-76. -70. 790-801. <i>cs</i> 10, M111.012658.		
Species Reactiv	itv	Species reactivity is de	termined by testing	g in at least one approve	d application (e.g.,	western blot).
Western Blot Bu	-		, , , , , , , , , , , , , , , , , , ,	membrane with diluted		·
		TBS, 0.1% Tween® 20	at 4°C with gentle s	shaking, overnight.		
Applications Key		W: Western Blotting				
Cross-Reactivity Key		H: Human M: Mouse Mk: Monkey				
Trademarks and Patents		Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.				

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