

#8487 Store at -20°C

Sestrin-2 (D1B6) Rabbit mAb**Cell Signaling**
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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	H Mk	Endogenous	56	Rabbit IgG	#P58004	83667

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, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.	
Specificity / Sensitivity	Sestrin-2 (D1B6) Rabbit mAb recognizes overexpressed levels of total sestrin-2 protein, as well as endogenous levels of sestrin-2 protein when expression is high.	
Source / Purification	Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human sestrin-2 protein.	
Background	<p>The Sestrin family of proteins, which comprises sestrin-1 (PA26), sestrin-2 (Hi95), and sestrin-3, plays an important role in regulating the cellular response to oxidative stress. Sestrin-1 and -2, both transcriptional targets of p53, have been shown to activate AMPK activity toward TSC2, ultimately resulting in the inhibition of mTOR (1). Thus, sestrin-1 and -2 link p53 signaling to the regulation of cellular growth (2). Sestrins have also been shown to function as modulators of cellular hydrogen peroxide concentration. Hydrogen peroxide is an important signaling molecule that is highly genotoxic and must therefore be tightly regulated (3). 2-Cys peroxiredoxins are metabolizing enzymes that maintain low cellular concentrations of hydrogen peroxide, but are hyperoxidized to an inactive state by a rapid increase in concentration (4) before quickly being reduced back to their active state by sestrins (5). This allows a hydrogen peroxide signal to temporarily circumvent the protective activity of 2-Cys peroxiredoxins, while minimizing oxidative damage.</p>	
Background References	1. Budanov, A.V. and Karin, M. (2008) <i>Cell</i> 134, 451-60. 2. Wulschleger, S. et al. (2006) <i>Cell</i> 124, 471-84. 3. Veal, E.A. et al. (2007) <i>Mol Cell</i> 26, 1-14. 4. Jönsson, T.J. and Lowther, W.T. (2007) <i>Subcell Biochem</i> 44, 115-41. 5. Budanov, A.V. et al. (2004) <i>Science</i> 304, 596-600.	

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	WB: Western Blotting IP: Immunoprecipitation
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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