

#4331 Store at -20°C

Phospho-ATP-Citrate Lyase (Ser455) Antibody



Cell Signaling
TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB, IP	H M	Endogenous	125	Rabbit	#P53396	47

Product Usage Information	Application	Dilution
	Western Blotting	1:1000
	Immunoprecipitation	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	Phospho-ATP-Citrate Lyase (Ser455) Antibody detects endogenous levels of ATP-citrate lyase only when phosphorylated at Ser455 (equivalent to Ser454 in rat).	
Species predicted to react based on 100% sequence homology:	Rat	
Source / Purification	Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser455 of human ATP-citrate lyase. Antibodies are purified by protein A and peptide affinity chromatography.	
Background	ATP-citrate lyase (ACL) is a homotetramer that catalyzes the formation of acetyl-CoA and oxaloacetate (OAA) in the cytosol, which is the key step for the biosynthesis of fatty acids, cholesterol and acetylcholine, as well as for glucogenesis (1). Nutrients and hormones regulate the expression level and phosphorylation of ATP-citrate lyase (1,2). It is phosphorylated by GSK-3 on Thr446 and Ser450 (3). Ser455 of ATP-citrate lyase has been reported to be phosphorylated by PKA and Akt (4,5). Phosphorylation on Ser455 abolishes the homotropic allosteric regulation by citrate and enhances the catalytic activity of the enzyme (2).	
Background References	<ol style="list-style-type: none"> 1. Towle, H.C. et al. (1997) <i>Annu Rev Nutr</i> 17, 405-33. 2. Potapova, I.A. et al. (2000) <i>Biochemistry</i> 39, 1169-79. 3. Hughes, K. et al. (1992) <i>Biochem J</i> 288 (Pt 1), 309-14. 4. Pierce, M.W. et al. (1982) <i>J Biol Chem</i> 257, 10681-6. 5. Berwick, D.C. et al. (2002) <i>J Biol Chem</i> 277, 33895-900. 	

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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