

#13086 Store at -20°C

# CTR1/SLC31A1 Antibody

**Cell Signaling**  
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3 Trask Lane | Danvers | Massachusetts | 01923 | USA

**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 R	Endogenous	26-34	Rabbit	#O15431	1317

<b>Product Usage Information</b>	<b>Application</b> Western Blotting Immunoprecipitation	<b>Dilution</b> 1:1000 1:50
<b>Storage</b>	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.	
<b>Specificity / Sensitivity</b>	CTR1/SLC31A1 Antibody recognizes endogenous levels of total CTR1 (SLC31A1) protein.	
<b>Source / Purification</b>	Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro107 of human CTR1 (SLC31A1) protein. Antibodies are purified by protein A and peptide affinity chromatography.	
<b>Background</b>	<p>The high affinity copper uptake protein 1 (CTR1, SLC31A1) helps maintain copper homeostasis by mediating dietary copper intake chiefly in the small intestine (1). A series of methionine-rich repeats and other residues are conserved among CTR1 genes across taxa, and are thought to be important for copper transport (2,3). In mammalian cells, CTR1 is localized to the plasma membrane and intracellular vesicles (3). Upon copper uptake via plasma membrane into cells, CTR1 is down regulated by clathrin-dependent endocytosis and degradation of CTR1 protein (4). Research studies suggest that the CTR1 copper transporter also mediates uptake of the anticancer drug cisplatin in yeast and mammals and that decreased CTR1 can result in the development of cisplatin resistance (5,6). Treatment of cancer cells with cisplatin can result in reduced CTR1 expression, which reduces cisplatin accumulation within cells and leads to cisplatin resistance in some human cancer cells (7-9).</p>	
<b>Background References</b>	1. Lee, J. et al. (2001) <i>Proc Natl Acad Sci U S A</i> 98, 6842-7. 2. Kim, B.E. et al. (2008) <i>Nat Chem Biol</i> 4, 176-85. 3. Lee, J. et al. (2002) <i>J Biol Chem</i> 277, 4380-7. 4. Petris, M.J. et al. (2003) <i>J Biol Chem</i> 278, 9639-46. 5. Ishida, S. et al. (2002) <i>Proc Natl Acad Sci U S A</i> 99, 14298-302. 6. Kuo, M.T. et al. (2007) <i>Cancer Metastasis Rev</i> 26, 71-83. 7. Abada, P. and Howell, S.B. (2010) <i>Met Based Drugs</i> 2010, 317581. 8. Yu, L. et al. (2011) <i>Nan Fang Yi Ke Da Xue Xue Bao</i> 31, 801-4. 9. Kalayda, G.V. et al. (2012) <i>J Inorg Biochem</i> 116, 1-10.	

<b>Species Reactivity</b>	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
<b>Western Blot Buffer</b>	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.
<b>Applications Key</b>	<b>WB:</b> Western Blotting <b>IP:</b> Immunoprecipitation
<b>Cross-Reactivity Key</b>	<b>H:</b> human <b>M:</b> mouse <b>R:</b> rat <b>Hm:</b> hamster <b>Mk:</b> monkey <b>Vir:</b> virus <b>Mi:</b> mink <b>C:</b> chicken <b>Dm:</b> D. melanogaster <b>X:</b> Xenopus <b>Z:</b> zebrafish <b>B:</b> bovine <b>Dg:</b> dog <b>Pg:</b> pig <b>Sc:</b> S. cerevisiae <b>Ce:</b> C. elegans <b>Hr:</b> horse <b>GP:</b> Guinea Pig <b>Rab:</b> rabbit <b>All:</b> all species expected
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