

# NAC1 Antibody



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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:
W	M R	Endogenous	62	Rabbit	#Q96RE7	112939

**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 and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

**Specificity/Sensitivity**

NAC1 Antibody detects endogenous levels of total NAC1 protein in mouse and rat and weakly detects human NAC1 protein.

**Species predicted to react based on 100% sequence homology**

Human

**Source / Purification**

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the amino acid sequence surrounding Ala321 of human NAC1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

**Background**

NAC1 or nuclear accumbens-1 is a nuclear factor that belongs to the POZ/BTB (Pox virus and zinc finger/bric-a-brac tramtrack broad complex) domain family. Also known as BTBD14B, it was originally identified in a unique neuronal forebrain structure responsible for reward motivation and addictive behaviors (1,2). NAC1 recruits HDAC3 and HDAC4 to transcriptionally repress gene expression in neuronal cells (3) and specifically co-represses other POZ/BTB proteins in the central nervous system (4). NAC1 is upregulated in several tumor types, including breast, renal cell, and hepatocellular carcinoma, as well as high grade ovarian serous carcinoma, where it has long been suspected as a chemoresistance gene (5,6). The chemoresistance mechanism reportedly occurs through NAC1 negative regulation of the GADD45 pathway (7). NAC1 has also been described as part of the extended transcriptional network in pluripotent cells that involves Oct-4, Sox2, Nanog, Sall1, KLF4 and Sall4 (8).

**Background References**

1. Kalivas, P.W. et al. (1999) *Synapse* 33, 153-9.
2. Mackler, S.A. et al. (2000) *J Neurosci* 20, 6210-7.
3. Korutla, L. et al. (2005) *J Neurochem* 94, 786-93.
4. Korutla, L. et al. (2009) *Neurochem Int* 54, 245-52.
5. Nakayama, K. et al. (2006) *Proc Natl Acad Sci USA* 103, 18739-44.
6. Yeasmin, S. et al. (2008) *Clin Cancer Res* 14, 1686-91.
7. Jinawath, N. et al. (2009) *Oncogene* 28, 1941-8.
8. Kim, J. et al. (2008) *Cell* 132, 1049-61.

**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**

**W:** Western Blotting

**Cross-Reactivity Key**

**M:** Mouse **R:** Rat

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