

# SAMHD1 Antibody



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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H	Endogenous	69, 72	Rabbit	#Q9Y3Z3	25939

## 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

SAMHD1 Antibody recognizes endogenous levels of total SAMHD1 protein. This antibody cross-reacts with a 30 kDa protein of unknown origin.

## Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro607 of human SAMHD1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

## Background

SAM domain and HD domain-containing protein 1 (SAMHD1) is a negative regulator of the cell-intrinsic innate immune response (1). Research studies have identified mutations in *SAMHD1* as a cause of Aicardi-Goutieres syndrome, an autoimmune disease characterized by elevated production of interferon-α and symptoms resembling congenital viral infection (1). SAMHD1 was identified as the restriction factor that renders most myeloid cells refractory to human immunodeficiency virus (HIV) infection (2-4). Expression of the viral protein Vpx in refractory cells targets SAMHD1 for ubiquitin-mediated degradation and relieves HIV restriction. SAMHD1 prevents autoimmunity and HIV infection by hydrolyzing intracellular deoxynucleoside triphosphates (dNTPs), thereby limiting inappropriate immune activation by self nucleic acid and inhibiting reverse transcription of the HIV genome (4-6).

## Background References

1. Rice, G.I. et al. (2009) *Nat Genet* 41, 829-32.
2. Laguetta, N. et al. (2011) *Nature* 474, 654-7.
3. Hrecka, K. et al. (2011) *Nature* 474, 658-61.
4. Powell, R.D. et al. (2011) *J Biol Chem* 286, 43596-600.
5. Goldstone, D.C. et al. (2011) *Nature* 480, 379-82.
6. Lahouassa, H. et al. (2012) *Nat Immunol* 13, 223-8.

## 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

**H:** Human

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