

PE anti-SAMHD1 Antibody

Catalog# / Size	941003 / 25 tests 941004 / 100 tests
Clone	W19081C
Regulatory Status	RUO
Other Names	SAM and HD Domain Containing Deoxynucleoside Triphosphate, Triphosphohydrolase 1, Monocyte Protein 5, Aicardi-Goutieres Syndrome 5, Sterile Alpha Motif and Histidine Aspartate Domain-Containing Protein 1
Isotype	Rat IgG2a, κ
Description	<p>SAMHD1 is a host defense factor involved in the innate immune response to viral infections, including HIV-1. Through its dNTPase activity, SAMHD1 disrupts viral genome replication by depleting available pools of deoxynucleotide triphosphates (dNTPs) for viral reverse transcription in dendritic and myeloid cells. In addition to its role in innate immune defense, SAMHD1 also plays an essential role in preserving genome stability through maintaining balanced dNTP pools. Independently of its dNTPase activity, SAMHD1 is required for resection of stalled, gapped, or reversed DNA replication forks by stimulating the exonuclease activity of MRE11. SAMHD1-deficient cells show increased dNTPs and genome instability, and an increased accumulation of G1-positive cells. These cells also accumulate single-strand DNA fragments in the cytosol, leading to the induction of pro-inflammatory type 1 interferons through the cGAS-STING pathway. Mutations in the SAMHD1 are found in many cancers, as well as the severe congenital inflammatory disease Aicardi-Goutieres syndrome.</p>

Product Details

Isotype Control	PE Rat IgG2a, κ Isotype Ctrl
Verified Reactivity	Human
Antibody Type	Monoclonal
Host Species	Rat
Immunogen	Partial recombinant human SAMHD1 protein
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA)
Preparation	The antibody was purified by affinity chromatography and conjugated with PE under optimal conditions.
Concentration	Lot-specific (to obtain lot-specific concentration and expiration, please enter the lot number in our Certificate of Analysis online tool.)
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.
Application	ICFC - Quality tested
Recommended Usage	Each lot of this antibody is quality control tested by intracellular flow cytometry using our True-Phos™ Perm Buffer in Cell Suspensions Protocol. For flow cytometric staining, the suggested use of this reagent is 5 μ L per million cells in 100 μ L staining volume or 5 μ L per 100 μ L of whole blood. It is recommended that the reagent be titrated for optimal performance for each application.
Excitation Laser	Blue Laser (488 nm) Green Laser (532 nm)/Yellow-Green Laser (561 nm)
Application Notes	Clone W19081C is not recommended for immunocytochemistry applications due to non-specific staining.
Additional Product Notes	Clone W19081C can be used with Cyto-Fast™ Fix/Perm Buffer or True-Nuclear™ Transcription Factor Buffer. However, True-Phos™ Perm Buffer is recommended for optimal staining results.
RRID	AB_3662343 (BioLegend Cat. No. 941003)

Antigen Details

Structure	SAMHD1 is a 626 amino acid protein with a predicted molecular weight of 72 kD.
Distribution	Ubiquitously expressed/Nucleus
Function	Innate immune response, DNA replication and repair
Cell Type	Dendritic cells, Monocytes
Biology Area	Cell Biology, Cell Cycle/DNA Replication, DNA Repair/Replication, Innate Immunity
Molecular Family	Enzymes and Regulators
Antigen References	1. Laguette N, <i>et al.</i> 2011. <i>Nature</i> . 474:654.
Gene ID	25939

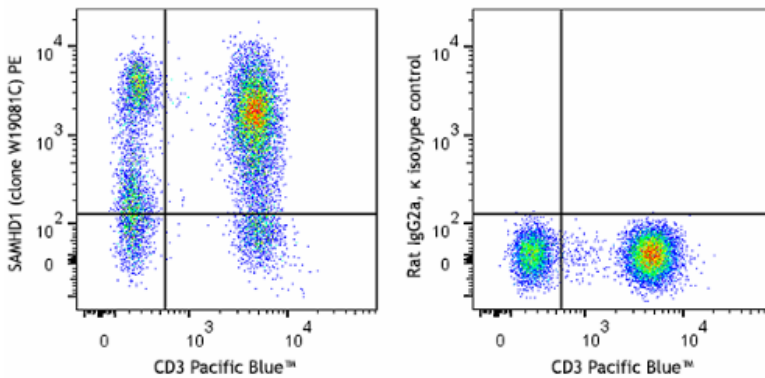
Related Protocols

- [Intracellular Staining With True-Phos™ Perm Buffer in Cell Suspensions Protocol](#)

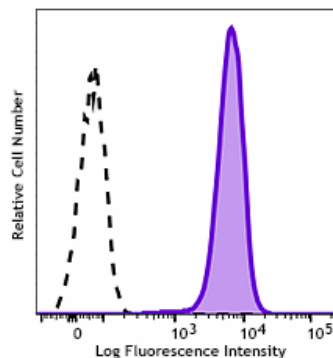
Other Formats

Purified anti-SAMHD1, PE anti-SAMHD1

Product Data



Human peripheral blood mononuclear cells were surface stained with anti-human CD3 (clone UCHT1) Pacific Blue™. Cells were then fixed and permeabilized with True-Phos™ Perm Buffer Set (Cat. No. 425401), then intracellularly stained with anti-SAMHD1 (clone W19081C) PE (left) or rat IgG2a, κ PE isotype control (right).



THP1 cells were fixed and permeabilized using True-Phos™ Perm Buffer Set (Cat. No. 425401), then intracellularly stained with anti-SAMHD1 (clone W19081C) PE (closed histogram) or rat IgG2a, κ PE isotype control (open histogram).

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