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Product Information

Monoclonal Anti-SAMHD1, clone SM1.1
produced in mouse, purified immunoglobulin

Catalog Number **SAB4200614**

Product Description
Monoclonal Anti-SAMHD1 (mouse IgG1 isotype) is derived from the hybridoma SM1.1 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a synthetic peptide corresponding to a sequence at the C-terminal region of human SAMHD1 (GeneID: 25939). The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2. The antibody is purified from culture supernatant of hybridoma cells grown in a bioreactor.

Monoclonal Anti-SAMHD1 recognizes human and monkey SAMHD1. The product may be used in several immunochemical techniques including immunoblotting (~ 72 kDa), flow cytometry and immunocytochemistry.

SAMHD1 was originally identified in a human dendritic cell cDNA library as an orthologue of the mouse IFN-γ-induced gene *Mg11*.[1] SAMHD1 is expressed at basal levels in a large number of tissues but is highly expressed in dendritic cells and other cells of the myeloid lineage.[2] Mutations in SAMHD1 are associated with Aicardi-Goutières syndrome (AGS), a severe genetic infantile encephalopathy characterised by chronic cerebrospinal fluid lymphocytosis, elevated levels of interferon-α.[3] SAMHD1 acts at early stages of the viral life cycle but its precise mode of action is yet to be uncovered. It has, however, been described that depletion of SAMHD1 leads to accumulation of full-length HIV DNA, arguing for a potential action around the reverse transcription step by hydrolyzing the majority of cellular dNTPs.[4-5] It should be noted that once considering future therapeutic opportunities, enhancement of SAMHD1 function may help hosts develop potent innate and adaptive immune responses to HIV-1.[6]

Reagent
Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody Concentration: ~ 1.0 mg/mL

Precautions and Disclaimer
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability
For extended storage, freeze at –20 ^{0}C in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile
Immunoblotting: a working concentration of 0.5-1.0 μg/mL is recommended using HeLa total cell extracts.

Immunofluorescence: a working concentration of 5-10 μg/mL is recommended using HeLa cells.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

References
1. Li, N., et al., *Immunol. Lett.,* **74**, 221-224 (2000).
2. Laguette, N., et al., *Nature,* **474**, 654-657 (2011).
3. Rice, G.I., et al., *Nat. Genet.,* **41**, 829-832 (2009).
4. Laguette, N., and Benkirane, M., *Trends Immunol.,* **33**, 26-33 (2012).
5. Goldstone, D.C., et al., *Nature,* **480**, 379-381 (2011).
6. St Gelais, C., and Wu, L., *Retrovirol.,* **8**, 55- 57 (2011).

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