Revision 1

Store at -20C

#3687

ASM Antibody

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H	Endogenous	57, 70	Rabbit	#P17405	6609

Product Usage Information

Application	Dilution
Western Blotting	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

ASM Antibody detects endogenous levels of total human ASM protein.

Species predicted to react based on 100% sequence homology

Monkey

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues at the carboxyl terminus of human ASM. Antibody was purified by protein A and peptide affinity chromatography.

Background

Sphingomyelinases (SMases) catalyze the hydrolysis of sphingomyelin to produce ceramide and phosphocholine (1). Ceramide is an important bioactive lipid triggering signal transduction involved in cell proliferation, apoptosis and differentiation (1,2). A number of SMases have been described and categorized based on their optimum pH activity, cation dependence, tissue distribution, and subcellular localization (1). These include a lysosomal acid SMase, a Zn^{++}-dependent secreted acid SMase, a membrane-bound Mg^{++}-dependent neutral SMase, a Mg^{++}-independent neutral SMase, and an alkaline SMase.
Acid sphingomyelinase (ASM or SMPD1) is a lysosomal enzyme responsible for the hydrolysis of sphingomyelin to ceramide and phosphocholine. The ASM gene encodes three proteins, ASM-1, ASM-2, and ASM-3, of which ASM-1 is the only catalytically active enzyme (3,4). ASM-1 can exist as a 70 kDa form as well as a 57 kDa proteoytic product (5). Expression of ASM is induced during monocytic cell differentiation (6). Defects in the ASM gene are associated with type A and type B Niemann-Pick disease (7).

Background References

1. Marchesini, N. and Hannun, Y.A. (2004) *Biochem Cell Biol* 82, 27-44.
2. Ruvolo, P.P. (2001) *Leukemia* 15, 1153-60.
3. Quintern, L.E. et al. (1989) *EMBO J* 8, 2469-73.
4. Schuchman, E.H. et al. (1991) *J Biol Chem* 266, 8531-9.
5. Ferlinz, K. et al. (1994) *Biochem J* 301 (Pt 3), 855-62.
6. Langmann, T. et al. (1999) *J Lipid Res* 40, 870-80.
7. Levran, O. et al. (1991) *Proc Natl Acad Sci USA* 88, 3748-52.

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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