SONY

Product Data Sheet

Brilliant Violet 421™ anti-human CD107a (LAMP-1)

Catalog # / Size: 2243125 / 25 tests
2243130 / 100 tests

Clone: H4A3

Isotype: Mouse IgG1, κ

Immunogen: Human adult adherent peripheral blood cells

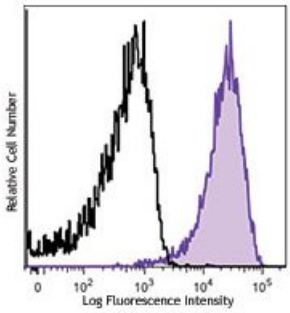
Reactivity: Human, Non-human primate, Other

Preparation: The antibody was purified by affinity chromatography and conjugated with Brilliant Violet 421™ under optimal conditions.

Formulation: Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA).

Workshop Number: P PR-63; BP 473; P P008

Concentration: Lot-specific



Thrombin-activated human peripheral blood platelets were stained with CD107a (clone H4A3) Brilliant Violet 421™ (filled histogram) or mouse IgG1,κBrilliant Violet 421™ isotype control (open histogram).

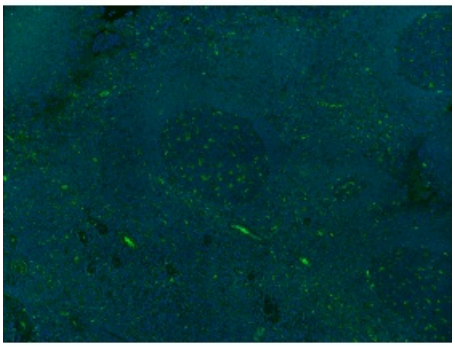
Applications:

Applications: Flow Cytometry, Other

Recommended Usage: Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. For flow cytometric staining, the suggested use of this reagent is ≤5 µl per million cells or 5 µl per 100 µl of whole blood. It is recommended that the reagent be titrated for optimal performance for each application.

Brilliant Violet 421™ excites at 405 nm and emits at 421 nm. The standard bandpass filter 450/50 nm is recommended for detection. Brilliant Violet 421™ is a trademark of Sirigen Group Ltd.

Application Notes: Additional reported applications (for the relevant formats) include: Western blotting[8], immunohistochemical staining2, immunofluorescence[5,7], and immunoprecipitation5.



Formalin-fixed paraffin-embedded human tonsil treated with a citrate buffer pH6 and heat for antigen retrieval was stained with purified CD107a clone H4A3, conjugated and detected with a Cy5 conjugated CODEX™ oligonucleotide duplex (green). Data generated at Akoya Biosciences, Inc. using the CODEX™ technology.

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Application References:

1. Misse D, *et al.* 1999. *Blood* 93:2454.
2. Furuta K, *et al.* 2001. *Am. J. Pathol.* 159:449. (IHC)
3. Watanabe A, *et al.* 2011. *J. Biol. Chem.* 286:10702. PubMed
4. Baron Gaillard CL, *et al.* 2011. *Mol. Cell. Biol.* 22:5459. PubMed
5. Hauck CR and Meyer TF. 1997. *FEBS Lett.* 405:86. (IF, IP)
6. De Keersmaecker B, *et al.* 2012. *J. Virol.* 86:9351. PubMed
7. Knodler LA, *et al.* 2010. *P. Natl. Acad. Sci. USA.* 107:17733. (IF)
8. Oh J, *et al.* 2000. *Hum. Mol. Genet.* 9:375. (WB)
9. Salio M, *et al.* 2013 *PNAS.* 110:4753. PubMed

Description: CD107a, also known as Lysosome-Associated Membrane Protein 1 (LAMP-1) or LGP-120, is a 110-140 kD type I membrane glycoprotein. Mature CD107a is heavily glycosylated from a 40 kD core protein. This molecule is located on the luminal side of lysosomes. Upon activation, CD107a is transferred to the cell membrane surface of activated platelets, activated lymphocytes, macrophages, epithelial cells, endothelial cells, and some tumor cells. CD107a has been suggested to play a role in the protection of lysosomal membrane from lysosomal hydrolases which is involved in cell adhesion and regulation of tumor metastasis, and mediates autoimmune disease progression. CD107a is a ligand for galaptin and E-selectin. Surface expression of LAMP-1 has been shown to correlate with $CD8^+$ T cell and NK cell cytotoxicity.

Antigen References:

1. Sarafian V, *et al.* 2006. *Arch. Dermatol. Res.* 298:7381.
2. Schlossman SF, *et al.* 1995. *Leukocyte Typing V:White Cell Differentiation Antigens.* New York:Oxford University Press.
3. Sawada R, *et al.* 1993. *J. Biol. Chem.* 268:12675.
4. Chen JW, *et al.* 1988. *J. Biol. Chem.* 263:8754.
5. Chen JW, *et al.* 1986. *Biochem. Soc. Symp.* 51:97112.

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