SONY

# Product Data Sheet

## PerCP/Cyanine5.5 anti-mouse LAP (TGF-β1)

**Catalog # / Size:** 1307050 / 100 µg
1307045 / 25 µg

**Clone:** TW7-16B4

**Isotype:** Mouse IgG1, κ

**Immunogen:** Mouse *Tgfb1*-transduced P3U1 cells

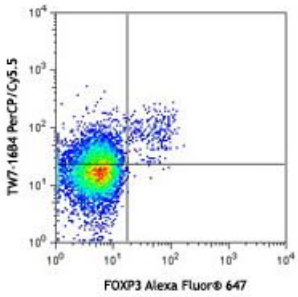
**Reactivity:** Mouse

**Preparation:** The antibody was purified by affinity chromatography and conjugated with PerCP/Cy5.5 under optimal conditions.

**Formulation:** Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.

**Workshop Number:** V B045

**Concentration:** 0.2




C57BL/6 mouse splenocytes were stimulated with anti-mouse CD3, CD28, and recombinant mouse IL-2 for 48-hours, then surface stained with CD4 FITC and LAP (TGF-β1) (clone TW7-16B4) PerCP/Cy5.5 (top) or mouse IgG1, κPerCP/Cy5.5 isotype control (bottom). This was followed by intracellular staining with FOXP3 Alexa Fluor® 647. Data shown was generated by gating on CD4+ lymphocyte population.

## Applications:

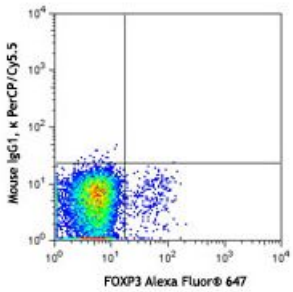
**Applications:** Flow Cytometry

**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 ≤0.25 µg per million cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application.

* PerCP/Cy5.5 has a maximum absorption of 482 nm and a maximum emission of 690 nm.

**Application Notes:** Clone TW7-16B4 has been reported to not cross-react with bovine LAP.2 Several anti-LAP antibody clones have been compared and characterized for their LAP reactivity.2 TW7-16B4 recognizes recombinant LAP, latent TGF-β, and pro-TGF-β.

Additional reported applications (for relevant formats) include: Western blotting1 and immunoprecipitation1.

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**Application References:**

1. Oida T, *et al.* 2010. *PLoS One* 5:e15523. (FC, IP, WB)
2. Oida T, *et al.* 2011. *PLoS One* 6:e18365. (Neut)

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**Description:** Transforming growth factor beta (TGF-β) is a cytokine that has critical functions in the immune response by regulating Treg and Th17 cells. TGF-β is first synthesized as pro-TGF-β and then it is cleaved by furin proprotein convertase in the Golgi apparatus to produce the dimeric propeptides called latency-associate peptide (LAP) that non-covalently associates with the dimeric mature TGF-β to prevent its activity. This complex can further associate with latent-TGF-β-binding protein (LTBP) to produce a large latent form for deposition onto the extracellular matrix. The latent-TGF-β can be expressed on the membrane of activated Treg cells, immature dendritic cells, megakaryocytes, and platelets.

**Antigen References:**

1. Oida T, *et al.* 2010. *PLoS One* 5:e15523.
2. Tran D, *et al.* 2009. *P. Natl. Acad. Sci. USA* 106:13445.
3. Ochi H, *et al.* 2006. *Nat. Med.* 12:627.
4. Oida T, *et al.* 2003. *J. Immunol.* 170:2516.
5. Nakamura K. 2001. *J. Exp. Med.* 194:629.
6. Miyazono K, *et al.* 1993. *Growth Factors* 8:11.

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