

MONOCLONAL ANTIBODY

Anti-Mouse IL-18

Code No.	Clone	Subclass	Quantity	Form
D046-3	39-3F	Rat IgG2a	100 µg	lyophilized

BACKGROUND : Interleukin 18 (IL-18) is a 18 kDa novel cytokine which identified as a costimulatory factor for production of interferon- γ (IFN- γ) in response to toxic shock and shares functional similarities with IL-12. IL-18 is synthesized as a precursor 24 kDa molecule without a signal peptide and must be cleaved to produce an active molecule. IL-1 converting enzyme (ICE, Caspase-1) cleaves pro-IL-18 at aspartic acid in the P1 position, producing the mature, bioactive peptide that is readily released from the cells. It is reported that IL-18 is produced from Kupffer cells, activated macrophages, keratinocytes, intestinal epithelial cells, osteoblasts, adrenal cortex cells and murine diencephalon.

IFN- γ is produced by activated T or NK cells and plays critical roles in the defense against microbial pathogens. IFN- γ activates macrophages, enhances NK activity and B cell maturation, proliferation and Ig secretion, induces MHC class I and II antigens, and inhibits osteoclast activation.

IL-18 acts on T helper 1-type T cells and in combination with IL-12 strongly induces them to produce IFN- γ . Pleiotropic effects of IL-18 has also been reported, such as, enhancement production of IFN- γ and GM-CSF in peripheral blood mononuclear cells, production of T helper type 1 cytokines, IL-2, GM-CSF and IFN- γ in T cells, enhancement of Fas ligand expression by T helper type 1 (Th1) cells.

Anti Mouse IL-18 antibody (39-3F) can be used on western blotting.

SOURCE : This antibody was purified from mouse ascites fluid using protein-G Sepharose. This hybridoma was established by fusion of mouse myeloma cell SP2/o with SD rat splenocyte immunized with recombinant Mouse IL-18.

PRODUCT : This antibody is lyophilized form. Prepare a stock solution by dissolving the lyophilized antibody with 100 µl of distilled water. After reconstitution, IgG concentration should be 1.0 mg/ml in PBS (pH7.2) / 1% Sucrose . No preservative is contained.

STORAGE : Lyophilized antibody is stable for 5 years from the date of manufacture when stored at 4°C. After reconstitution, avoid repeated freezing and thawing. For storage, prepare appropriate aliquots and freeze them at -20°C.

REACTIVITY : This antibody reacts with Mouse IL-18 on western blotting.
This antibody detects 18.1 KD of mouse IL-18 on western blotting with recombinant mouse IL-18.

APPLICATIONS :

Western blotting; 1µg/ml
Details concerning the following research applications are provided.

SPECIES CROSS REACTIVITY : Mouse

RESEARCH USE :

For research use only. Not for clinical diagnosis.

REFERENCE:

- 1) Okamura H., et al. *Nature* **378**, 88-91 (1995)
- 2) Ushio S., et al. *J. Immunol.* **156**, 4274-4279 (1996)
- 3) Micallef M., et al. *Eur. J. Immunol.* **26**, 1647-1651 (1996)
- 4) Tao D, et al. *Cell Immunol.* **173**, 230-235 (1998)

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RESEARCH APPLICATIONS :**SDS PAGE & Western Blotting**

- 1) Boil all samples for 3~5 minutes. Load 10 µl of recombinant Mouse IL-18 (1~10 µg total protein) and electrophoresis in a 1 mm thick SDS-polyacrylamide gel.
- 2) Transfer to polyvinylidene difluoride (PVDF) membrane at 200mA for 1hour in a semi-dry transfer system. (Transfer Buffer: 25mM Tris, 190mM glycine, 20% MeOH).
- 3) For reducing non-specific binding, treat the membrane with 5% Skim Milk/ PBS for 1hour at 37°C, or overnight at 4°C.
- 4) Incubate with primary antibody diluted as suggest in the APPLICATIONS for 1 hour at room temperature. (The concentration of antibody to be used will be dependent on condition.)
- 5) Wash the membrane 3 times with PBS containing 0.05% Tween20 for 5~10 minutes each.
- 6) Incubate for 45 minutes at room temperature with Horseradish Peroxidase conjugated goat anti-rat IgG (Cat# IM-0823) diluted to 1:6000 with PBS.
- 7) Wash the membrane 3 times with PBS containing 0.05% Tween20 for 10 minutes each.
- 8) Incubate the membrane with Amersham ECL Reagent for 1 minute. Remove excess ECL Reagent from the membrane by dabbing with Kimwipe, and seal it in plastic wrap.
- 9) Expose to ECL hyperfilm in a dark room for 30 seconds. Develop the film as usual for autoradiogram or X-ray. The condition for exposure and development may vary.

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