Canine IL-17/IL-17A Antibody

Monoclonal Mouse IgG_{2A} Clone # 665909

Catalog Number: MAB5848

DESCRIPTION

Species Reactivity	Canine
Specificity	Detects canine IL-17 in direct ELISAs. In direct ELISAs, approximately 25% cross-reactivity with recombinant human (rh) IL-17A is observed and no cross-reactivity with rhIL-17F or recombinant mouse IL-17A is observed.
Source	Monoclonal Mouse IgG_{2A} Clone # 665909
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant canine IL-17 Gly26-Ala155 Accession # NP_001159350
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

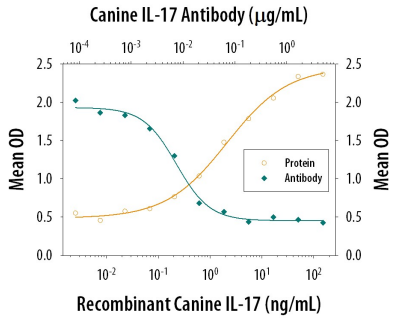
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

Neutralization	Measured by its ability to neutralize IL-17-induced IL-6 secretion in the NIH-3T3 mouse embryonic fibroblast cell line. Yao, Z. et al. (1995) Immunity 3:811.The Neutralization Dose (ND_{50}) is typically 5-30 ng/mL in the presence of 5 ng/mL Recombinant Canine IL-17.

DATA

Neutralization



IL-6 Secretion Induced by IL-17 and Neutralization by Canine IL-17 Antibody.
Recombinant Canine IL-17 (Catalog # 5848-CL) induces IL-6 secretion in the NIH-3T3 mouse embryonic fibroblast cell line in a dose-dependent manner (orange line). IL-6 Secretion elicited by Recombinant Canine IL-17 (5 ng/mL) is neutralized (green line) by increasing concentrations of Mouse Anti-Canine IL-17 Monoclonal Antibody (Catalog # MAB5848). The ND_{50} is typically 5-30 ng/mL.

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.5 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

Canine IL-17/IL-17A Antibody

Monoclonal Mouse IgG_{2A} Clone # 665909

Catalog Number: MAB5848

BACKGROUND

Interleukin 17 (IL-17; also IL-17A and CTLA-8) is a 17 kDa member of the IL-17 family of cytokines (1). Members of this family demonstrate a structural motif termed a cysteine knot which characterize a large superfamily of growth factors. Although most cysteine knot superfamily members use three intrachain disulfide bonds to create a knot, IL-17 family molecules generate the same structural form with only two disulfide links (2-4). Based on the amino acid (aa) sequence alignment with human IL-17, canine IL-17 is 130 aa in length. It is secreted as a 35 kDa disulfide-linked homodimer and as a 40 kDa disulfide-linked heterodimer with IL-17F (5). Canine IL-17 is 81% identical on the aa level to human IL-17. IL-23 drives Th17 lymphocytes to produce IL-17 (6-8). IL-17's production has also been demonstrated in γδ T cells (9), $CD8^+$ memory T cells (10-11), eosinophils (12), neutrophils (10), and monocytes (13). Studies have identified that the widely expressed receptors IL-17RA and IL-17RC form a heterodimer for the binding of IL-17 (6, 14-15). The predominant function of IL-17 is thought to be as a proinflammatory mediator through a variety of mechanisms (16). Locally, IL-17 stimulates production of IL-6, prostaglandin E and nitric oxide (16-19), and synergy with other inflammatory cytokines such as TNF-α, IL-1β and IFN -γ leads to up-regulation of gene expression and progression and amplification of local inflammation (16, 20-22). IL-17 also mediates chemotaxis of neutrophils and monocytes to sites of inflammation through the chemoattractant mediators IL-8, GRO-α, and MCP-1 (16, 22-25) while augmenting production of hematopoietic growth factors, such as G-CSF and GM-CSF (16, 26, 27), which promote the growth and maturation of the recruited myeloid cells. In addition, IL-17 serves as a bridge between innate and adaptive immune responses by enhancing the induction of co-stimulatory molecules such as ICAM-1 and other cytokines (16, 22, 28), thereby supporting T cell activation. IL-17 expression has been associated with many inflammatory diseases, such as rheumatoid arthritis, multiple sclerosis, asthma, systemic lupus erythematosus and allograft rejection (15).

References:

1. Gaffen, S.L. *et al.* (2006) Vitam. Horm. **74**:255.
2. Kawaguchi, M. *et al.* (2004) J. Allergy Clin. Immunol. **114**:1265.
3. Kolls, J.K. and A. Linden (2004) Immunity **21**:467.
4. Moseley, T.A. *et al.* (2003) Cytokine Growth Factor Rev. **14**:155.
5. Wright, J.F. *et al.* (2007) J. Biol. Chem. **282**:13447.
6. Cheung, P.F.Y. *et al.* (2008) J. Immunol. **180**:5625.
7. Steinman, L. (2007) Nat. Med. **13**:139.
8. Hunter, C.A. (2005) Nat. Rev. Immunol. **5**:521.
9. Lockhart, E. *et al.* (2006) J. Immunol. **177**:4662.
10. Ferretti, S. *et al.* (2003) J. Immunol. **170**:2106.
11. Shin, H.C. *et al.* (1999) Cytokine **11**:257.
12. Molet, S. *et al.* (2001) J. Allergy Clin. Immunol. **108**:430.
13. Zhou, Q. *et al.* (2005) Infect. Immun. **73**:935.
14. Kuestner, R.E. *et al.* (2007) J. Immunol. **179**:5462.
15. Chang, S.H. and C. Dong (2007) Cell Res. **17**:435.
16. Afzali, B. *et al.* (2007) Clin. Exp. Immunol. **148**:32.
17. Fossiez, F. *et al.* (1996) J. Exp. Med. **183**:2593.
18. Yao, Z. *et al.* (1995) Immunity **3**:811.
19. Attur, M.G. *et al.* (1997) Arthritis Rheum. **40**:1050.
20. Ruddy, M.J. *et al.* (2004) J. Biol. Chem. **279**:2559.
21. Albanesi, C. *et al.* (1999) J. Immunol. **162**:494.
22. Witowski, J. *et al.* (2000) J. Immunol. **165**:5814.
23. Miyamoto, M. *et al.* (2003) J. Immunol. **170**:4665.
24. Ye, P. *et al.* (2001) Am. J. Respir. Cell Mol. Biol. **25**:335.
25. Laan, M. *et al.* (2001) Br. J. Pharmacol. **133**:200.
26. Starnes, T. *et al.* (2002) J. Immunol. **169**:642.
27. Jones, C.E. *et al.* (2002) Am. J. Respir. Cell Mol. Biol. **26**:748.
28. Yao, Z. *et al.* (1995) J. Immunol. **155**:5483.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 **Canada** TEL 855 668 8722 **China** TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449