OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850
UNITED STATES
Phone: +1-888-267-4436
Fax: +1-301-340-8606
techsupport@origene.com

OriGene Technologies GmbH
Schillerstr. 5
32052 Herford
GERMANY
Phone: +49-5221-34606-0
Fax: +49-5221-34606-11
info-de@origene.com

SM409F Monoclonal Antibody to CD4 - FITC

Alternate names: T-cell surface antigen T4/Leu-3, T-cell surface glycoprotein CD4

Quantity: 100 Tests

Concentration: 0.1 mg/ml

Background: In the dog CD4 is expressed by neutrophils as well as by lymphocytes subsets.

Uniprot ID: P33705

NCBI: NP_001003252.1

GeneID: 403931

Host / Isotype: Rat / IgG2a

Clone: YKIX302.9

Immunogen: Canine Concanavilin A activated T-cell blasts.
Remarks: Spleen cells from immunised DA rats were fused with cells of the Y3/Ag1.2.3 rat myeloma cell line.

Format:
State: Liquid purified IgG fraction
Purification: Affinity Chromatography on Protein G
Buffer System: PBS
Preservatives: 0.09% Sodium Azide
Stabilizers: 1% BSA
Label: FITC – Fluorescein Isothiocyanate Isomer 1

Applications: **Flow Cytometry:** Use 10 µl of 1/50-1/100 diluted antibody to label 10^6 cells or 100 µl whole blood.
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity: This antibody Clone YKIX302.9 recognises the Canine CD4 cell surface antigen. The antibody has been shown to block MHCII dependent T cell responses *in vivo* and *in vitro*. In the Dog CD4 is expressed by neutrophils as well as by lymphocytes subsets.
Species: Canine (Dog).
Other species not tested.

Storage: Store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.
Avoid repeated freezing and thawing.
This product is photosensitive and should be protected from light.
Shelf life: one year from despatch.

General Readings:
1. Cobbold S, Metcalfe S. Monoclonal antibodies that define canine homologues of human CD antigens: summary of the First International Canine Leukocyte Antigen Workshop (CLAW). Tissue Antigens. 1994 Mar;43(3):137-54. PubMed PMID: 8091414.
2. Gorman SD, Frewin MR, Cobbold SP, Waldmann H. Isolation and expression of cDNA encoding the canine CD4 and CD8 alpha antigens. Tissue Antigens. 1994 Mar;43(3):184-8. PubMed PMID: 8091416.
3. Watson CJ, Cobbold SP, Davies HS, Rebello PR, Waldmann H, Calne RY, et al. CD4

and CD8 monoclonal antibody therapy: strategies to prolong renal allograft survival in the dog. Br J Surg. 1993 Nov;80(11):1389-92. PubMed PMID: 8252344.
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6. Boggiatto PM, Ramer-Tait AE, Metz K, Kramer EE, Gibson-Corley K, Mullin K, et al. Immunologic indicators of clinical progression during canine Leishmania infantum infection. Clin Vaccine Immunol. 2010 Feb;17(2):267-73. doi: 10.1128/CVI.00456-09. Epub 2009 Dec 23. PubMed PMID: 20032217.
7. Araújo MS, de Andrade RA, Sathler-Avelar R, Magalhães CP, Carvalho AT, Andrade MC, et al. Immunological changes in canine peripheral blood leukocytes triggered by immunization with first or second generation vaccines against canine visceral leishmaniasis. Vet Immunol Immunopathol. 2011 May 15;141(1-2):64-75. doi: 10.1016/j.vetimm.2011.02.007. Epub 2011 Feb 23. PubMed PMID: 21439654.
8. Benyacoub J, Czarnecki-Maulden GL, Cavadini C, Sauthier T, Anderson RE, Schiffrin EJ, et al. Supplementation of food with Enterococcus faecium (SF68) stimulates immune functions in young dogs. J Nutr. 2003 Apr;133(4):1158-62. PubMed PMID: 12672936.
9. Bund D, Buhmann R, Gökmen F, Kremser A, Dreyssig J, Kolb HJ, et al. Canine-DCs using different serum-free methods as an approach to provide an animal-model for immunotherapeutic strategies. Cell Immunol. 2010;263(1):88-98. doi: 10.1016/j.cellimm.2010.03.003. Epub 2010 Mar 6. PubMed PMID: 20347071.
10. Estrela-Lima A, Araújo MS, Costa-Neto JM, Teixeira-Carvalho A, Barrouin-Melo SM, Cardoso SV, et al. Immunophenotypic features of tumor infiltrating lymphocytes from mammary carcinomas in female dogs associated with prognostic factors and survival rates. BMC Cancer. 2010 Jun 4;10:256. doi: 10.1186/1471-2407-10-256. PubMed PMID: 20525350.
11. Out TA, Wang SZ, Rudolph K, Bice DE. Local T-cell activation after segmental allergen challenge in the lungs of allergic dogs. Immunology. 2002 Apr;105(4):499-508. PubMed PMID: 11985670.
12. Pinheiro D, Singh Y, Grant CR, Appleton RC, Sacchini F, Walker KR, et al. Phenotypic and functional characterization of a CD4(+) CD25(high) FOXP3(high) regulatory T-cell population in the dog. Immunology. 2011 Jan;132(1):111-22. doi: 10.1111/j.1365-2567.2010.03346.x. Epub 2010 Sep 30. PubMed PMID: 20880379.
13. Mitchell L, Thamm DH, Biller BJ. Clinical and immunomodulatory effects of toceranib combined with low-dose cyclophosphamide in dogs with cancer. J Vet Intern Med. 2012 Mar-Apr;26(2):355-62. doi: 10.1111/j.1939-1676.2011.00883.x. Epub 2012 Feb 4. PubMed PMID: 22303814.

Pictures:

Staining of Canine peripheral blood lymphocytes with Rat Anti Canine CD4 Antibody - FITC Cat.-No SM409F