SANTA CRUZ BIOTECHNOLOGY, INC.

CD14 (TUK4): sc-19588

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Lipopolysaccharide (LPS) elicits the secretion of mediators and cytokines produced by activated macrophages and monocytes. CD14 is a glycosylphosphatidylinositol (GPI)-anchored protein found on the surfaces of monocytes and polymorphonuclear leukocytes. CD14 functions as a receptor for LPS, resulting in the secretion of various proteins. An important component in the LPS activation of monocytes through the CD14 receptor is the "adapter molecule" lipopolysaccharide binding protein (LBP). There are two forms of CD14, a membrane-associated form (mCD14), and a soluble form (sCD14). MCD14 responds to LPS alone and facilitates the secretion of proteins, while cells not expressing mCD14 fail to respond to LPS. The cells that lack mCD14 respond to LPS/LBP in the presence of sCD14.

CHROMOSOMAL LOCATION

Genetic locus: CD14 (human) mapping to 5q31.3.

SOURCE

CD14 (TUK4) is a mouse monoclonal antibody raised against tumor cells from a patient suffering leukemia.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD14 (TUK4) is available conjugated to either phycoerythrin (sc-19588 PE) or fluorescein (sc-19588 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

CD14 (TUK4) is recommended for detection of CD14 of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

CD14 (TUK4) is also recommended for detection of CD14 in additional species, including bovine, porcine and canine.

Suitable for use as control antibody for CD14 siRNA (h): sc-29248, CD14 shRNA Plasmid (h): sc-29248-SH and CD14 shRNA (h) Lentiviral Particles: sc-29248-V.

Molecular Weight of CD14: 53-55 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207, CCRF-CEM cell lysate: sc-2225 or THP-1 cell lysate: sc-2238.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

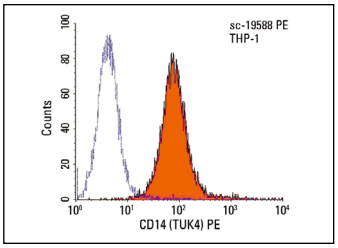
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

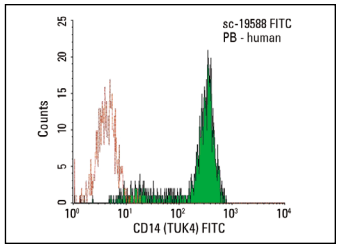
RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



CD14 (TUK4) PE: sc-19588 PE. FCM analysis of THP-1 cells. Black line histogram represents the isotype control, normal mouse IgG_{2a}-PE: sc-2867.



CD14 (TUK4) FITC: sc-19588 FITC. FCM analysis of human peripheral blood leukocytes. Black line histogram represents the isotype control, normal mouse IgG_{2a}-FITC: sc-2856.

SELECT PRODUCT CITATIONS

1. Pongcharoen, S., et al. 2006. Interleukin-17 expression in the human placenta. Placenta 28: 59-63.
2. Schmeisser, A., et al. 2006. Apoptosis of human macrophages by Flt-4 signaling: implications for atherosclerotic plaque pathology. Cardiovasc. Res. 71: 774-784.
3. Yatera, K., et al. 2008. Particulate matter air pollution exposure promotes recruitment of monocytes into atherosclerotic plaques. Am. J. Physiol. Heart Circ. Physiol. 294: H944-H953.
4. Tomiyasu, H., et al. 2011. Spontaneous acute erythroblastic leukaemia (AML-M6Er) in a dog. J. Small Anim. Pract. 52: 445-447.
5. Goto-Koshino, Y., et al. 2014. Differential expression of CD45 isoforms in canine leukocytes. Vet. Immunol. Immunopathol. 160: 118-122.
6. Mochizuki, H., et al. 2015. Demonstration of the cell clonality in canine hematopoietic tumors by X-chromosome inactivation pattern analysis. Vet. Pathol. 52: 61-69.
7. Valekova, I., et al. 2016. Revelation of the IFNα, IL-10, IL-8 and IL-1β as promising biomarkers reflecting immuno-pathological mechanisms in porcine Huntington's disease model. J. Neuroimmunol. 293: 71-81.
8. Tomiyasu, H., et al. 2018. Clinical and clinicopathological characteristics of acute lymphoblastic leukaemia in six cats. J. Small Anim. Pract. 59: 742-746.
9. Gamage, A.M., et al. 2022. Single-cell transcriptome analysis of the *in vivo* response to viral infection in the cave nectar bat *Eonycteris spelaea.* Immunity 55: 2187-2205.e5.

CONJUGATES

See **CD14 (5A3B11B5): sc-58951** for CD14 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.