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Anti-Mouse CD117 (c-Kit) Functional Grade Purified

Catalog Number: 16-1172
Also Known As:cKit, Steel Factor Receptor
RUO: For Research Use Only

Product Information

Contents: Anti-Mouse CD117 (c-Kit) Functional Grade Purified
REF **Catalog Number:** 16-1172
Clone: ACK2
Concentration: 1 mg/ml
Host/Isotype: Rat IgG2b, κ
Handling Conditions: Use in sterile environment.
Endotoxin Level: Less than 0.001 ng/ug antibody, as determined by the LAL assay.

Formulation: aqueous buffer, no sodium azide
Temperature Limitation: Store at 2-8°C.
LOT **Batch Code:** Refer to Vial
Use By: Refer to Vial

Description

The ACK2 monoclonal antibody reacts with mouse CD117, also known as c-Kit receptor, Steel factor receptor and stem cell factor receptor. A member of the tyrosine kinase receptor family, this 145 kDa molecule is expressed by a majority of hematopoietic progenitor cells characterized in the mouse bone marrow as a small subset of cells positive for Sca-1 and Thy1 ($Thy1^{lo}$) and negative for lineage markers. The interaction of the mouse c-kit receptor and steel factor promotes the proliferation and differentiation of hematopoietic progenitor cells. CD117 is also expressed by mast cells and plays a role in signaling and activation of these cells. ACK2 has been reported to be a blocking antibody.

Applications Reported

The ACK2 antibody has been reported for use in flow cytometric analysis. It has also been reported for use in functional assays.

Applications Tested

The ACK2 antibody has been tested by flow cytometric analysis of mouse bone marrow cell suspensions. This can be used at less than or equal to 0.125 µg per test. A test is defined as the amount (µg) of antibody that will stain a cell sample in a final volume of 100 µL. Cell number should be determined empirically but can range from 10^5 to 10^8 cells/test. It is recommended that the antibody be carefully titrated for optimal performance in the assay of interest.

References

Rico-Vargas, S., et al. 1994. c-kit expresssion by B cell precursors in mouse bone marrow. J. Immunol. 152: 2845.

Ito M, Kawa Y, et al. 1999. Removal of stem cell factor or addition of monoclonal anti-c-KIT antibody induces apoptosis in murine melanocyte precursors. J Invest Dermatol. 112: 796-801.

Vincent S, Segretain D, et al. 1998. Stage-specific expression of the Kit receptor and its ligand (KL) during male gametogenesis in the mouse: a Kit-KL interaction critical for meiosis. Development. 125: 4585-93.

Sato D, Lai ZF, et al. 1996. Impairment of Kit-dependent development of interstitial cells alters contractile responses of murine intestinal tract. Am J Physiol. 271: G762-71.

Yoshida H, Kunisada T, et al. 1996. Distinct stages of melanocyte differentiation revealed by anlaysis of nonuniform pigmentation patterns. Development. 122: 1207-14.

Yoshinaga K, Nishikawa S, et al. 1991. Role of c-kit in mouse spermatogenesis: identification of spermatogonia as a specific site of c-kit expression and function. Development. 113:689-99.

Torihashi S, Ward SM, et al. 1995. c-kit-dependent development of interstitial cells and electrical activity in the murine gastrointestinal tract. Cell Tissue Res. 280:97-111.

Feng H, Sandlow JI, Sandra A. 1997. Expression and function of the c-kit proto-oncogene protein in mouse sperm. Biol Reprod. 57:194-203.

Feng H, Sandlow JI, Sandra A. 1998. The c-kit receptor and its possible signaling transduction pathway in mouse spermatozoa. Mol

Reprod Dev. 49:317-26.

Prasanth SG and Ali S. 2003. Expression of proto-oncogene c-kit receptor in rats (Rattus norvegicus) and identification of a mutant mRNA transcript implicated in spermatogenic failure. DNA Cell Biol. 2003 Jul;22(7):447-56. (ACK2, rat cross-reactivity, PubMed)

Ismail RS, Okawara Y, et al. 1996. Hormonal regulation of the ligand for c-kit in the rat ovary and its effects on spontaneous oocyte meiotic maturation. Mol Reprod Dev. 1996 Apr;43(4):458-69. (ACK2, rat cross-reactivity and blocking, PubMed)

Kim HM, Shin HY, and Lee EH. 1998. Morphological alterations in rat peritoneal mast cells by stem cell factor. Immunology. 1998 Jun;94(2):242-6. (ACK2, rat cross-reactivity and blocking, PubMed)

Czechowicz A, Kraft D, Weissman IL, and Bhattacharya D. 2007. Efficient transplantation via antibody-based clearance of hematopoietic stem cell niches. Science. 23;318(5854):1296-9. (ACK2, in vivo depletion HSC, PubMed)

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