

Anti-Mouse CD117 Antibody, Clone ACK2, Alexa Fluor® 488



Scientists Helping Scientists™ | WWW.STEMCELL.COM

TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713

INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM

FOR GLOBAL CONTACT DETAILS VISIT OUR WEBSITE

Antibodies

Rat monoclonal IgG2b antibody
against mouse CD117 (c-Kit), Alexa
Fluor® 488-conjugated

Catalog #60034AD
#60034AD.1

100 µg 0.5 mg/mL
25 µg 0.5 mg/mL

Product Description

The ACK2 antibody reacts with CD117 (c-Kit), an ~145 kDa type 1 transmembrane receptor for c-Kit ligand (stem cell factor/steel factor) that is broadly expressed on hematopoietic stem cells in bone marrow, including pluripotent and erythroid progenitor cells and B and T lymphocyte precursors, as well as on mast cells. CD117 belongs to the tyrosine kinase receptor family and possesses five immunoglobulin-like C2-type domains and a cytoplasmic protein kinase domain. Binding of c-Kit ligand to CD117 induces dimerization and autophosphorylation, which activates several intracellular signaling pathways critical for the proliferation and differentiation of hematopoietic stem cells. Signaling by CD117 is modulated by phosphatases and by rapid endocytosis and degradation of the receptor. Mutations in CD117 are associated with various types of tumors and the piebald trait, an autosomal dominant abnormality of pigmentation. It has been reported that binding of the ACK2 antibody blocks the function of CD117.

Target Antigen Name:	CD117 (c-Kit)
Alternative Names:	c-KIT, cKIT, Stem cell factor receptor (SCFR)
Gene ID:	16590
Species Reactivity:	Mouse
Host Species:	Rat
Clonality:	Monoclonal
Clone:	ACK2
Isotype:	IgG2b, kappa
Immunogen:	Mouse IL-3-dependent mast cellslls
Conjugate:	Alexa Fluor® 488

Applications

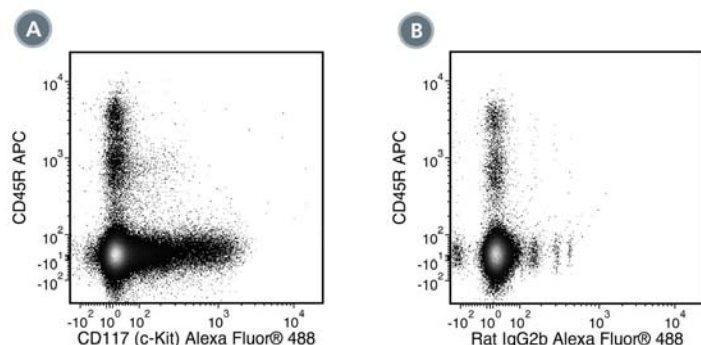
Verified:	FC
Reported:	FC

Abbreviations: CellSep: Cell separation; ChIP: Chromatin immunoprecipitation; FA: Functional assay; FACS: Fluorescence-activated cell sorting; FC: Flow cytometry; ICC: Immunocytochemistry; IF: Immunofluorescence microscopy; IHC: Immunohistochemistry; IP: Immunoprecipitation; RIA: Radioimmunoassay; WB: Western blotting

Properties

Formulation:	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide
Purification:	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 488 under optimal conditions. The solution is free of unconjugated Alexa Fluor® 488.
Stability and Storage:	Product stable at 2 - 8°C when stored undiluted. Do not freeze. Protect product from prolonged exposure to light. For product expiry date, please contact techsupport@stemcell.com .
Directions for Use:	For flow cytometry, the suggested use of this antibody is ≤ 0.25 µg per 1 x 10 ⁶ cells in 100 µL. It is recommended that the antibody be titrated for optimal performance for each application.

Data



(A) Flow cytometry analysis of C57BL/6 mouse bone marrow cells labeled with Anti-Mouse CD117 Antibody, Clone ACK2, Alexa Fluor® 488 and Anti-Mouse CD45R Antibody, Clone RA3-6B2, APC (Catalog #60019AZ).

(B) Flow cytometry analysis of C57BL/6 mouse bone marrow cells labeled with Rat IgG2b, kappa Isotype Control Antibody, Clone RTK4530, Alexa Fluor® 488 (Catalog #60077AD) and Anti-Mouse CD45R Antibody, Clone RA3-6B2, APC.

Related Products

For a complete list of antibodies, including other conjugates, sizes and clones, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/antibodies or contact us at techsupport@stemcell.com.

References

- Li X et al. (2014) Alterations of the interstitial cells of Cajal and the microstructure of the gastrointestinal tract in KIT distal kinase mutant mice. *Cell Tissue Res* 355(1): 49–58. (IF, IHC, WB)
- Saito Y et al. (2013) Dendritic cell homeostasis is maintained by nonhematopoietic and T-cell-produced Flt3-ligand in steady state and during immune responses. *Eur J Immunol* 43(6): 1651–8. (FC)
- Louvet C et al. (2008) Tyrosine kinase inhibitors reverse type 1 diabetes in nonobese diabetic mice. *Proc Natl Acad Sci USA* 105(48): 18895–900. (FA/Blocking)
- Czechowicz A et al. (2007) Efficient transplantation via antibody-based clearance of hematopoietic stem cell niches. *Science* 318(5854): 1296–9. (FA/Blocking, Depletion)
- Wognum AW et al. (2003) Identification and isolation of hematopoietic stem cells. *Arch Med Res* 34(6): 461–75.
- Pulendran B et al. (1997) Developmental pathways of dendritic cells in vivo: distinct function, phenotype, and localization of dendritic cell subsets in FLT3 ligand-treated mice. *J Immunol* 159(5): 2222–31. (FC)
- Broudy VC et al. (1996) Interaction of stem cell factor and its receptor c-kit mediates lodgment and acute expansion of hematopoietic cells in the murine spleen. *Blood* 88(1): 75–81. (FA/Blocking)
- Rico-Vargas SA et al. (1994) c-kit expression by B cell precursors in mouse bone marrow. Stimulation of B cell genesis by in vivo treatment with anti-c-kit antibody. *J Immunol* 152(6): 2845–52. (FA/Blocking, ICC, IF)
- Matsuzaki Y et al. (1993) Characterization of c-kit positive intrathymic stem cells that are restricted to lymphoid differentiation. *J Exp Med* 178(4): 1283–92. (FACS, FC)
- Ikuta K & Weissman IL. (1992) Evidence that hematopoietic stem cells express mouse c-kit but do not depend on steel factor for their generation. *Proc Natl Acad Sci USA* 89(4): 1502–6. (FC, IP)
- Nishikawa S et al. (1991) In utero manipulation of coat color formation by a monoclonal anti-c-kit antibody: two distinct waves of c-kit-dependency during melanocyte development. *EMBO J* 10(8): 2111–8. (FA/Blocking, IHC)
- Ogawa M et al. (1991) Expression and function of c-kit in hemopoietic progenitor cells. *J Exp Med* 174(1): 63–71. (FA/Blocking)
- Yoshinaga K 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(2): 689–99. (Blocking, IHC)
- Chabot B et al. (1988) The proto-oncogene c-kit encoding a transmembrane tyrosine kinase receptor maps to the mouse W locus. *Nature* 335(6185): 88–9.

STEMCELL TECHNOLOGIES INC.'S QUALITY MANAGEMENT SYSTEM IS CERTIFIED TO ISO 13485. PRODUCTS ARE FOR RESEARCH USE ONLY AND NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES UNLESS OTHERWISE STATED.

Copyright © 2018 by STEMCELL Technologies Inc. All rights reserved including graphics and images. STEMCELL Technologies & Design, STEMCELL Shield Design, Scientists Helping Scientists, and StemSpan are trademarks of STEMCELL Technologies Canada Inc. All other trademarks are the property of their respective holders. Alexa Fluor is a registered trademark of Life Technologies Corporation. Antibodies conjugated to Alexa Fluor® are licensed for internal research use only and sale is expressly conditioned on the buyer not using the antibody for manufacturing, performing a service or medical test, or otherwise generating revenue. For use other than research, contact Life Technologies Corporation, 5791 Van Allen Way, Carlsbad, CA 92008 USA or outlicensing@lifetech.com. While STEMCELL has made all reasonable efforts to ensure that the information provided by STEMCELL and its suppliers is correct, it makes no warranties or representations as to the accuracy or completeness of such information.