

Ly-6C Monoclonal Antibody (HK1.4), eFluor™
 450, eBioscience™

Catalog Number 48-5932-80

Product data sheet

Details	
Size	25 µg
Host/Isotope	Rat / IgG2c, kappa
Class	Monoclonal
Type	Antibody
Clone	HK1.4
Conjugate	eFluor™ 450
Form	Liquid
Concentration	0.2 mg/mL
Purification	Affinity chromatography
Storage buffer	PBS, pH 7.2
Contains	0.09% sodium azide
Storage Conditions	4° C, store in dark, DO NOT FREEZE!

Species Reactivity	
Species reactivity	Mouse
Published species	Mouse, Not Applicable
Tested Applications	
Flow Cytometry (Flow)	0.25 µg/test
Published Applications	
Flow Cytometry (Flow)	See 41 publications below

* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.

Product specific information

Description: The monoclonal antibody HK1.4 recognizes mouse Ly-6C, a GPI-linked protein of the Ly6 family. Ly-6C is found on monocytes /macrophages, endothelial cells and granulocytes as well as a subset of lymphocytes. Some variation of expression is found on different mouse strains in regards to expression on CD4 and CD8 lymphocytes. These correlate to 2 alleles both of which are recognized by HK1.4: Ly6c.1 found on C57Bl/6 and SJL cells which results in staining of both CD4 and CD8 cells while Ly6-C.2 found on BALB/c and 3H/He results in staining of CD8, but not CD4 cells. In vitro addition with HK1.4 antibody can increase proliferation and stimulate cytokine release. Applications Reported: This HK1.4 antibody has been reported for use in flow cytometric analysis. Applications Tested: This HK1.4 antibody has been tested by flow cytometric analysis of mouse splenocytes. This can be used at less than or equal to 0.25 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. eFluor® 450 is an alternative to Pacific Blue®, eFluor® 450 emits at 445 nm and is excited with the Violet laser (405 nm). Please make sure that your instrument is capable of detecting this fluorochrome. Excitation: 405 nm; Emission: 445 nm; Laser: Violet Laser. Filtration: 0.2 µm post-manufacturing filtered.

Background/Target Information

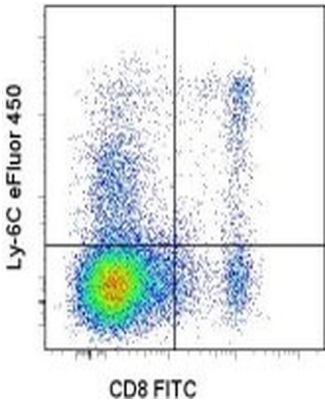
Granulocytes are a category of white blood cells characterised by the presence of granules in their cytoplasm. They are also called polymorphonuclear leukocytes (PMN or PML) because of the varying shapes of the nucleus, which is usually lobed into three segments. In common parlance, the term polymorphonuclear leukocyte often refers specifically to neutrophil granulocytes, the most abundant of the granulocytes. Granulocytes or PMN are released from the bone marrow by the regulatory complement proteins.

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Ly-6C Antibody (48-5932-80) in Flow

Staining of C57Bl/6 splenocytes with Anti-Mouse CD8a FITC (Product # 11-0081-82) and 0.125 µg of Anti-Mouse Ly-6C eFluor® 450. Total viable cells were used for analysis.

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41 Flow Cytometry References

Species / Dilution	Summary
	48-5932 was used in Flow cytometry/Cell sorting to highlight T-bet-independent pathways to IFN- production and reveal a novel role for this transcription factor in coordinating the T cell responses necessary to control infection in peripheral tissues.
Mouse / Not Cited	Journal of immunology (Baltimore, Md. : 1950) (2015; 194: 1131) "Diverse roles for T-bet in the effector responses required for resistance to infection." Author(s):Harms Pritchard G,Hall AO,Christian DA,Wagage S,Fang Q,Muallem G,John B,Glatman Zaretsky A,Dunn WG,Perrigoue J,Reiner SL,Hunter CA PubMed Article URL:http://dx.doi.org/10.4049/jimmunol.1401617
	48-5932 was used in Flow cytometry/Cell sorting to reveal a protective homozygous effect that defined a signalling optimum between autoimmunity and immunodeficiency and identified TYK2 as a potential drug target for autoimmune disorders.
Mouse / Not Cited	Science translational medicine (2016; 8:) "Resolving TYK2 locus genotype-to-phenotype differences in autoimmunity." Author(s):Dendrou CA,Cortes A,Shipman L,Evans HG,Attfield KE,Jostins L,Barber T,Kaur G,Kuttikkatte SB,Leach OA,Desel C,Faergeman SL,Cheeseman J,Neville MJ,Sawcer S,Compston A,Johnson AR,Everett C,Bell JI,Karpe F,Ultsch M,Eigenbrot C,McVean G,Fugger L PubMed Article URL:http://dx.doi.org/10.1126/scitranslmed.aag1974
	48-5932 was used in Flow cytometry/Cell sorting to elucidate the function of the IL-17 family members in anti-fungal immunity.
Mouse / Not Cited	Cellular & molecular immunology (2016; 13: 474) "IL-17C is required for lethal inflammation during systemic fungal infection." Author(s):Huang J,Meng S,Hong S,Lin X,Jin W,Dong C PubMed Article URL:http://dx.doi.org/10.1038/cmi.2015.56
	48-5932 was used in Flow cytometry/Cell sorting to explore the critical role of the heavy subunit of ferritin in tubular-macrophage cross-talk during kidney injury.
Mouse / Not Cited	Kidney international (2015; 88: 95) "Macrophage and epithelial cell H-ferritin expression regulates renal inflammation." Author(s):Bolisetty S,Zarjou A,Hull TD,Traylor AM,Perianayagam A,Joseph R,Kamal AI,Arosio P,Soares MP,Jeney V,Balla J,George JF,Agarwal A PubMed Article URL:http://dx.doi.org/10.1038/ki.2015.102
	48-5932-82 was used in Flow Cytometry to use streptozotocin,induced hyperglycemic mice to model T1DM and induced a Salmonella infection in the mouse model, leading to aggravated inflammation, which resulted in an elevated proportion of CD103+CD11b+ DCs and a significantly elevated proportion of CD4+FoxP3+ Tregs in the intestinal lamina propria.
Mouse / 1:200	Molecular medicine reports (2019; 19: 5377) "Salmonella infection leads to severe intestinal inflammation and increased CD4+FoxP3+ Treg cells in streptozotocininduced hyperglycemic mice." Author(s):Zhang S,Wang M,Wang X,Li H,Tang H,Li X PubMed Article URL:http://dx.doi.org/10.3892/mmr.2019.10195
	48-5932-82 was used in Flow Cytometry to suggest that pro-reparative monocyte subsets promote functional recovery after ischemic stroke.
Mouse / Not Cited	Journal of cerebral blood flow and metabolism : official journal of the International Society of Cerebral Blood Flow and Metabolism (2020; 40: S98) "CCR2 deficiency in monocytes impairs angiogenesis and functional recovery after ischemic stroke in mice." Author(s):Pedragosa J,Miró-Mur F,Otxoa-de-Amezaga A,Justicia C,Ruíz-Jaén F,Ponsaerts P,Pasparakis M,Planas AM PubMed Article URL:http://dx.doi.org/10.1177/0271678X20909055
	48593282 was used in flow cytometry to identify myeloid cells obtained from mouse intestine.
Mouse / Not Cited	Methods in molecular biology (Clifton, N.J.) (2018; 1559: 223) "Isolation and Identification of Intestinal Myeloid Cells." Author(s):Scott CL,Bain CC,Mowat AM PubMed Article URL:http://dx.doi.org/10.1007/978-1-4939-6786-5_15
	48-5932 was used in Flow cytometry/Cell sorting to investigate the mechanisms involved in crosstalk between immune cells and the epithelium in mucosal barrier repair.
Mouse / Not Cited	The Journal of clinical investigation (2017; 127: 3510) "Macrophage-derived IL-10 mediates mucosal repair by epithelial WISP-1 signaling." Author(s):Quiros M,Nishio H,Neumann PA,Siuda D,Brazil JC,Azcutia V,Hilgarth R,O'Leary MN,Garcia-Hernandez V,Leoni G,Feng M,Bernal G,Williams H,Dedhia PH,Gerner-Smidt C,Spence J,Parkos CA,Denning TL,Nusrat A PubMed Article URL:http://dx.doi.org/10.1172/JCI90229

	48-5932 was used in Flow cytometry/Cell sorting to explore the impact of selective and transient angiotensin-converting enzyme overexpression on macrophage behaviour and the relative contribution of bone marrow-derived ACE10 macrophages, but not microglia, in attenuating disease progression.
Mouse / Not Cited	Brain : a journal of neurology (2020; 143: 336) "Peripherally derived angiotensin converting enzyme-enhanced macrophages alleviate Alzheimer-related disease." Author(s):Koronyo-Hamaoui M,Sheyn J,Hayden EY,Li S,Fuchs DT,Regis GC,Lopes DHJ,Black KL,Bernstein KE,Teplow DB,Fuchs S,Koronyo Y,Rentsendorj A PubMed Article URL:http://dx.doi.org/10.1093/brain/awz364
	48-5932 was used in Flow cytometry/Cell sorting to highlight considerable heterogeneity within the macrophage pool and suggest a need for more specific macrophage targeting strategies in metabolic-associated fatty liver disease (MAFLD).
Mouse / Not Cited	Immunity (2020; 53: 641) "Osteopontin Expression Identifies a Subset of Recruited Macrophages Distinct from Kupffer Cells in the Fatty Liver." Author(s):Remmerie A,Martens L,Thoné T,Castoldi A,Seurinck R,Pavie B,Roels J,Vanneste B,De Prijck S,Vanhockerhout M,Binte Abdul Latib M,Devisscher L,Hoorens A,Bonnardel J,Vandamme N,Kremer A,Borghgraef P,Van Vlierberghe H,Lippens S,Pearce E,Saeyns Y,Scott CL PubMed Article URL:http://dx.doi.org/10.1016/j.immuni.2020.08.004
	48-5932-82 was used in Flow Cytometry to study how Fpr2/3 regulates CCL20-CCR6-mediated monocyte chemotaxis to sites of mucosal injury in the gut to influence wound repair.
Mouse / 1:200	FASEB journal : official publication of the Federation of American Societies for Experimental Biology (2019; 33: 13632) "Formyl peptide receptor 2 regulates monocyte recruitment to promote intestinal mucosal wound repair." Author(s):Birkel D,O'Leary MN,Quiros M,Azcutia V,Schaller M,Reed M,Nishio H,Keeney J,Neish AS,Lukacs NW,Parkos CA,Nusrat A PubMed Article URL:http://dx.doi.org/10.1096/fj.201901163R
	48-5932 was used in Flow cytometry/Cell sorting to investigate the role of p16(Ink4a)/-gal(pH6)-positive macrophages in aging, which previously was attributed solely to senescent cells.
Mouse / Not Cited	Aging (2016; 8: 1294) "Aging of mice is associated with p16(Ink4a)- and -galactosidase-positive macrophage accumulation that can be induced in young mice by senescent cells." Author(s):Hall BM,Balan V,Gleiberman AS,Strom E,Krasnov P,Virtuoso LP,Rydkina E,Vujcic S,Balan K,Gitlin I,Leonova K,Polinsky A,Chernova OB,Gudkov AV PubMed Article URL:http://dx.doi.org/10.18632/aging.100991
	48-5932-82 was used in Flow cytometry/Cell sorting to suggest that impaired activation of PPAR? in monocyte-derived macrophages exacerbates lung injury and the severity of LRTIs.
Mouse / Not Cited	JCI insight (2023; 8:) "Impaired PPAR activation by cadmium exacerbates infection-induced lung injury." Author(s):Larson-Casey JL,Liu S,Pyles JM,Lapi SE,Saleem K,Antony VB,Gonzalez ML,Crossman DK,Carter AB PubMed Article URL:http://dx.doi.org/10.1172/jci.insight.166608
	48-5932 was used in Flow cytometry/Cell sorting to analyse the role of migration inhibitory factor in the maturation of CD11b(+) and CD8 (+) dendritic cells.
Mouse / Not Cited	Mediators of inflammation (2016; 2016:) "MIF Promotes Classical Activation and Conversion of Inflammatory Ly6C(high) Monocytes into TipDCs during Murine Toxoplasmosis." Author(s):Ruiz-Rosado Jde D,Olguín JE,Juárez-Avelar I,Saavedra R,Terrazas LI,Robledo-Avila FH,Vazquez-Mendoza A,Fernández J,Satoskar AR,Partida-Sánchez S,Rodriguez-Sosa M PubMed Article URL:http://dx.doi.org/10.1155/2016/9101762
	48-5932 was used in Flow cytometry/Cell sorting to investigate Th2 cell responses to pulmonary fungal infection, showing that chitin recognition via chitotriosidase promotes pathologic type-2 helper T cell responses to cryptococcal infection.
Mouse / Not Cited	PLoS pathogens (2015; 11:) "Chitin recognition via chitotriosidase promotes pathologic type-2 helper T cell responses to cryptococcal infection." Author(s):Wiesner DL,Specht CA,Lee CK,Smith KD,Mukaremera L,Lee ST,Lee CG,Elias JA,Nielsen JN,Boulware DR,Bohjanen PR,Jenkins MK,Levitz SM,Nielsen K PubMed Article URL:http://dx.doi.org/10.1371/journal.ppat.1004701
	48-5932 was used in Flow cytometry/Cell sorting to provide a solid foundation for seeking effective therapies for promoting transplantation tolerance in settings of CMV infection.
Mouse / Not Cited	Blood advances (2018; 2: 669) "Murine CMV induces type 1 IFN that impairs differentiation of MDSCs critical for transplantation tolerance." Author(s):Dangi A,Zhang L,Zhang X,Luo X PubMed Article URL:http://dx.doi.org/10.1182/bloodadvances.2017012187

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48-5932-82 was used in Flow cytometry/Cell sorting to highlight a distinct effect of MCT1 deficiency in CD8+ T cells in the crosstalk with adipocytes and reinforce the concept that targeting immunometabolic reprogramming in lymphocyte could impact the immune-adipose tissue axis in obesity.

iScience (2022; 25:)
"Monocarboxylate transporter 1 deficiency impacts CD8⁺ T lymphocytes proliferation and recruitment to adipose tissue during obesity."
Author(s):Macchi C,Moregola A,Greco MF,Svecla M,Bonacina F,Dhup S,Dadhich RK,Audano M,Sonveaux P,Mauro C, Mitro N,Ruscica M,Norata GD
PubMed Article URL:<http://dx.doi.org/10.1016/j.isci.2022.104435>

48-5932-82 was used in Flow cytometry/Cell sorting to demonstrate that increased lymphatic density prior to injury alters the injury recovery response and affords protection from CKD progression.

Physiological reports (2021; 9:)
"Expanded renal lymphatics improve recovery following kidney injury."
Author(s):Baranwal G,Creed HA,Black LM,Auger A,Quach AM,Vegiraju R,Eckenrode HE,Agarwal A,Rutkowski JM
PubMed Article URL:<http://dx.doi.org/10.14814/phy2.15094>

48-5932 was used in Flow cytometry/Cell sorting to provide genetic evidence that signaling through STAT1 in myeloid cells is required to restrict MCMV at early time points post-infection and to induce compensatory hematopoiesis in the spleen.

Cell reports (2019; 26: 2394)
"Myeloid Cells Restrict MCMV and Drive Stress-Induced Extramedullary Hematopoiesis through STAT1."
Author(s):Gawish R,Bulat T,Biaggio M,Lassnig C,Bago-Horvath Z,Macho-Maschler S,Poelzl A,Simonovi N,Prchal-Murphy M,Rom R,Amenitsch L,Ferrarese L,Kornhoff J,Lederer T,Svinka J,Eferl R,Bosmann M,Kalinke U,Stoiber D,Sexl V,Krmpoti A,Jonji S,Müller M,Strobl B
PubMed Article URL:<http://dx.doi.org/10.1016/j.celrep.2019.02.017>

48-5932 was used in Flow cytometry/Cell sorting to demonstrate that ZEB2 expression is required in macrophages to preserve their tissue-specific identities.

Immunity (2018; 49: 312)
"The Transcription Factor ZEB2 Is Required to Maintain the Tissue-Specific Identities of Macrophages."
Author(s):Scott CL,T'Jonck W,Martens L,Todorov H,Sichien D,Soen B,Bonnardel J,De Prijk S,Vandamme N,Cannoodt R, Saelens W,Vanneste B,Toussaint W,De Bleser P,Takahashi N,Vandenabeele P,Henri S,Pridans C,Hume DA,Lambrecht BN,De Baetselier P,Milling SWF,Van Ginderachter JA,Malissen B,Berx G,Beschin A,Saeys Y,Guilliams M
PubMed Article URL:<http://dx.doi.org/10.1016/j.immuni.2018.07.004>

48-5932 was used in Flow cytometry/Cell sorting to conclude a previous T. gondii infection limits a helminth-specific Th2 immune response while promoting a shift toward a Th1-type immune response.

Frontiers in cellular and infection microbiology (2018; 7:)
"Toxoplasma Co-infection Prevents Th2 Differentiation and Leads to a Helminth-Specific Th1 Response."
Author(s):Ahmed N,French T,Rausch S,Kühl A,Hemminger K,Dunay IR,Steinfelder S,Hartmann S
PubMed Article URL:<http://dx.doi.org/10.3389/fcimb.2017.00341>

48-5932-82 was used in Flow Cytometry to provide novel insights into the transcription factors and active cis-regulatory elements that regulate OC differentiation.

Journal of bone and mineral research : the official journal of the American Society for Bone and Mineral Research (2021; 36: 199)
"Monocyte Subsets With High Osteoclastogenic Potential and Their Epigenetic Regulation Orchestrated by IRF8."
Author(s):Das A,Wang X,Kang J,Coulter A,Shetty AC,Bachu M,Brooks SR,Dell'Orso S,Foster BL,Fan X,Ozato K, Somerman MJ,Thumbigere-Math V
PubMed Article URL:<http://dx.doi.org/10.1002/jbmr.4165>

48-5932 was used in Flow cytometry/Cell sorting to demonstrate that selective blocking of C5aR might be a promising strategy to prevent myocardial ischaemia-reperfusion injury.

Cardiovascular research (2014; 103: 521)
"Leucocyte expression of complement C5a receptors exacerbates infarct size after myocardial reperfusion injury."
Author(s):De Hoog VC,Timmers L,Van Duijvenvoorde A,De Jager SC,Van Middelaar BJ,Smeets MB,Woodruff TM, Doevendans PA,Pasterkamp G,Hack CE,De Kleijn DP
PubMed Article URL:<http://dx.doi.org/10.1093/cvr/cvu153>

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48-5932 was used in Flow cytometry/Cell sorting to demonstrate immune-activating properties of AXT201 that could be developed in combination with other immunomodulatory agents in the treatment of TNBC.

Mouse / Not Cited	Oncoimmunology (2020; 9:) "Regulation of the tumor immune microenvironment and vascular normalization in TNBC murine models by a novel peptide." Author(s):Mirando AC,Patil A,Rafie CI,Christmas BJ,Pandey NB,Stearns V,Jaffee EM,Roussos Torres ET,Popel AS PubMed Article URL:http://dx.doi.org/10.1080/2162402X.2020.1760685
Mouse / Not Cited	48-5932-82 was used in Flow Cytometry to show that the Kupffer cell niche is composed of stellate cells, hepatocytes, and endothelial cells that together imprint the liver-specific macrophage identity. Immunity (2019; 51: 638) "Stellate Cells, Hepatocytes, and Endothelial Cells Imprint the Kupffer Cell Identity on Monocytes Colonizing the Liver Macrophage Niche." Author(s):Bonnardel J,T'Jonck W,Gaublomme D,Browaeys R,Scott CL,Martens L,Vanneste B,De Prijck S,Nedospasov SA,Kremer A,Van Hamme E,Borghgraef P,Toussaint W,De Bleser P,Mannaerts I,Beschin A,van Grunsven LA,Lambrecht BN,Taghon T,Lippens S,Elewaut D,Saey s Y,Guilliams M PubMed Article URL:http://dx.doi.org/10.1016/j.immuni.2019.08.017
Mouse / Not Cited	48-5932 was used in Flow cytometry/Cell sorting to investigate the effects of ablation of OTILON in liver parenchymal cells on the liver and inflammation using a mouse model. Cell reports (2020; 30: 2237) "OTULIN Prevents Liver Inflammation and Hepatocellular Carcinoma by Inhibiting FADD- and RIPK1 Kinase-Mediated Hepatocyte Apoptosis." Author(s):Verboom L,Martens A,Priem D,Hoste E,Sze M,Vikkula H,Van Hove L,Voet S,Roels J,Maelfait J,Bongiovanni L,de Bruin A,Scott CL,Saey s Y,Pasparakis M,Bertrand MJM,van Loo G PubMed Article URL:http://dx.doi.org/10.1016/j.celrep.2020.01.028
Mouse / Not Cited	48-5932 was used in Flow cytometry/Cell sorting to reveal aspects of the dynamics and functions of brain DCs in the regulation of inflammation and immunity. Cell reports (2020; 33:) "Dendritic Cells and Microglia Have Non-redundant Functions in the Inflamed Brain with Protective Effects of Type 1 cDCs." Author(s):Gallizioli M,Miró-Mur F,Otxoa-de-Amezaga A,Cugota R,Salas-Perdomo A,Justicia C,Brait VH,Ruiz-Jaén F,Arbaizar-Rovirosa M,Pedragosa J,Bonfill-Teixidor E,Gelderblom M,Magnus T,Cano E,Del Fresno C,Sancho D,Planas AM PubMed Article URL:http://dx.doi.org/10.1016/j.celrep.2020.108291
Mouse / 1:100	48-5932-82 was used in Flow Cytometry to show that cancer-associated fibroblasts regulate malignant cell metabolism through pathways under the control of FAK. Nature communications (2020; 11:) "Cancer associated fibroblast FAK regulates malignant cell metabolism." Author(s):Demircioglu F,Wang J,Candido J,Costa ASH,Casado P,de Luxan Delgado B,Reynolds LE,Gomez-Escudero J,Newport E,Rajeeve V,Baker AM,Roy-Luzarraga M,Graham TA,Foster J,Wang Y,Campbell JJ,Singh R,Zhang P,Schall TJ,Balkwill FR,Sosabowski J,Cutillas PR,Frezza C,Sancho P,Hodivala-Dilke K PubMed Article URL:http://dx.doi.org/10.1038/s41467-020-15104-3
Mouse / Not Cited	48-5932 was used in Flow cytometry/Cell sorting to study the involvement of dipeptidyl peptidase-4 in acute liver damage, and reveal its pro-recovery properties. Hepatology communications (2018; 2: 1080) "Dipeptidyl Peptidase-4 Is a Pro-Recovery Mediator During Acute Hepatotoxic Damage and Mirrors Severe Shifts in Kupffer Cells." Author(s):Duarte N,Coelho I,Holovanchuk D,Inês Almeida J,Penha-Gonçalves C,Paula Macedo M PubMed Article URL:http://dx.doi.org/10.1002/hep4.1225
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Mouse / 1:2000	NPJ vaccines (2023; 8:) "Differential requirement of neutralizing antibodies and T cells on protective immunity to SARS-CoV-2 variants of concern." Author(s):Azevedo PO,Hojo-Souza NS,Faustino LP,Fumagalli MJ,Hirako IC,Oliveira ER,Figueiredo MM,Carvalho AF, Doro D,Benevides L,Durigon E,Fonseca F,Machado AM,Fernandes AP,Teixeira SR,Silva JS,Gazzinelli RT PubMed Article URL:http://dx.doi.org/10.1038/s41541-023-00616-y
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