ARG54674
anti-CXCR4 antibody

Package: 50 µg, 25 µg
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes CXCR4
Tested Reactivity	Hu, Ms
Tested Application	ELISA, FACS, ICC/IF, IHC-Fr, IHC-P, IP, WB
Specificity	CXCR4 Antibody is predicted to not cross-react with other CXCR familiy members.
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	CXCR4
Immunogen	Synthetic peptide (14 aa) within the first 50 aa of Human CXCR4.
Conjugation	Un-conjugated
Alternate Names	Lipopolysaccharide-associated protein 3; LAP-3; LAP3; Stromal cell-derived factor 1 receptor; Leukocyte-derived seven transmembrane domain receptor; WHIMS; NPY3R; SDF-1 receptor; Fusin; LPS-associated protein 3; HM89; HSY3RR; FB22; NPYR; CD antigen CD184; LCR1; NPYY3R; WHIM; D2S201E; C-X-C chemokine receptor type 4; LESTR; CXC-R4; CD184; NPYRL; CXCR-4

Application Instructions

Application table

Application	Dilution
ELISA	Assay-Dependent
FACS	0.1 µg/ml
ICC/IF	ICC: 10 µg/ml. IF: 20 µg/ml
IHC-Fr	Assay-Dependent. Suggest using methanol for permeabilization.
IHC-P	10 µg/ml - 20 µg/ml
IP	10 µg/ml
WB	0.5 - 2 µg/ml

Application Note: * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Positive Control: HeLa Cell Lysate

Properties

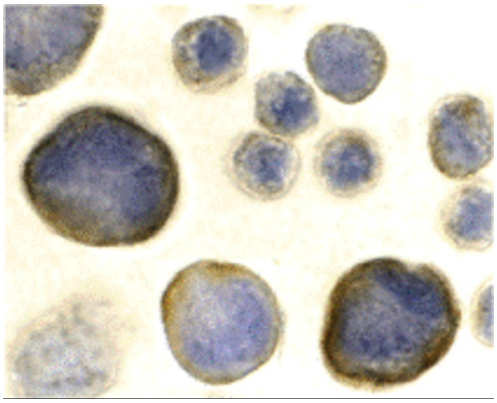
Form	Liquid
Purification	Affinity purification with immunogen.
Buffer	PBS and 0.02% Sodium azide

Preservative	0.02% Sodium azide
Concentration	1 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

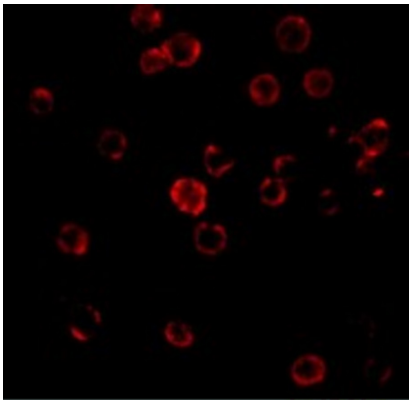
Database links	GeneID: 12767 Mouse GeneID: 7852 Human Swiss-port # P61073 Human Swiss-port # P70658 Mouse
Gene Symbol	CXCR4
Gene Full Name	chemokine (C-X-C motif) receptor 4
Background	CXCR4 Antibody: Human immunodeficiency virus (HIV) and related viruses require coreceptors, in addition to CD4, to infect target cells. Some G protein-coupled receptors including CCR5, CXCR4, CCR3, CCR2b and CCR8 in the chemokine receptor family, and four new human molecules GPR15, STRL33, GPR1 and V28 were recently identified as HIV coreceptors. Among them, CXCR4 (fusin, LESTR or HUMSTR) is a principal coreceptor for T-cell tropic strains of HIV-1 fusion and entry of human white blood cells. CXCR4 is also required for the infection by dual-tropic strains of HIV-1 and mediates CD-4 independent infection by HIV-2. The a-chemokine SDF-1 is the ligand for CXCR4 and prevents infection by T-tropic HIV-1. CXCR4 associates with the surface CD4-gp120 complex before HIV enters target cells. CXCR4 messenger RNA levels correlated with HIV-1 permissiveness in diverse human cell types. Antibodies to CXCR4 block HIV-1 and HIV-2 fusion and infection of human target cells. The amino-terminal domain and the second extracellular loop of CXCR4 serve as HIV binding sites. |
Research Area	Cancer antibody; Developmental Biology antibody; Immune System antibody; Metabolism antibody; Microbiology and Infectious Disease antibody; Neuroscience antibody
Calculated Mw	40 kDa
PTM	Phosphorylated on agonist stimulation. Rapidly phosphorylated on serine and threonine residues in the C-terminal. Phosphorylation at Ser-324 and Ser-325 leads to recruitment of ITCH, ubiquitination and protein degradation. Ubiquitinated by ITCH at the cell membrane on agonist stimulation. The ubiquitin-dependent mechanism, endosomal sorting complex required for transport (ESCRT), then targets CXCR4 for lysosomal degradation. This process is dependent also on prior Ser-/Thr-phosphorylation in the C-terminal of CXCR4. Also binding of ARRB1 to STAM negatively regulates CXCR4 sorting to lysosomes though modulating ubiquitination of SFR5S. Sulfation on Tyr-21 is required for efficient binding of CXCL12/SDF-1alpha and promotes its dimerization. Tyr-7 and Tyr-12 are sulfated in a sequential manner after Tyr-21 is almost fully sulfated, with the binding affinity for CXCL12/SDF-1alpha increasing with the number of sulfotyrosines present. Sulfotyrosines Tyr-7 and Tyr-12 occupy clefts on opposing CXCL12 subunits, thus bridging the CXCL12 dimer interface and promoting CXCL12 dimerization. O- and N-glycosylated. Asn-11 is the principal site of N-glycosylation. There appears to be very little or no glycosylation on Asn-176. N-glycosylation masks coreceptor function in both X4 and R5 laboratory-adapted and primary HIV-1 strains through inhibiting interaction with their Env glycoproteins. The O-glycosylation chondroitin sulfate attachment does not affect interaction with CXCL12/SDF-1alpha nor its coreceptor activity.

Images



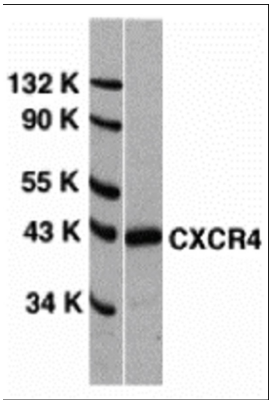
ARG54674 anti-CXCR4 antibody ICC/IF image

Immunocytochemistry: HeLa cells stained with ARG54674 anti-CXCR4 antibody at 2 µg/ml.



ARG54674 anti-CXCR4 antibody ICC/IF image

Immunofluorescence: HeLa cells stained with ARG54674 anti-CXCR4 antibody at 20 µg/ml.



ARG54674 anti-CXCR4 antibody WB image

Western blot: HeLa whole cell lysate stained with ARG54674 anti-CXCR4 antibody at 0.5 µg/ml.