SunLong Biotech Co.,LTD
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[Primary Antibody]

Rabbit Anti-CXCR4 antibody

Catalog Number: SL1011R

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	CXCR4
Immunogen:	KLH conjugated synthetic peptide derived from the middle of human CXCR4: 201-294/352 <Extracellular>
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. Shipped at 4℃. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.
Applications:	WB=1:500-2000 IHC-P=1:100-500 IHC-F=1:100-500 IF=1:100-500 （Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	Human,Mouse,Rat
Predicted MW.:	40kDa
Subcellular Location:	The cell membrane
Background:	This gene encodes a CXC chemokine receptor specific for stromal cell-derived factor-1. The protein has 7 transmembrane regions and is located on the cell surface. It acts with the CD4 protein to support HIV entry into cells and is also highly expressed in breast cancer cells. Mutations in this gene have been associated with WHIM (warts, hypogammaglobulinemia, infections, and myelokathexis) syndrome. Alternate transcriptional splice variants, encoding different isoforms, have been characterized. Monomer. Can form dimers. **Function:** Receptor for the C-X-C chemokine CXCL12/SDF-1 that transduces a signal by increasing intracellular calcium ion levels and enhancing MAPK1/MAPK3 activation. Acts as a receptor for extracellular ubiquitin; leading to enhanced intracellular calcium ions and reduced cellular cAMP

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	levels. Involved in hematopoiesis and in cardiac ventricular septum formation. Also plays an essential role in vascularization of the gastrointestinal tract, probably by regulating vascular branching and/or remodeling processes in endothelial cells. Involved in cerebellar development. In the CNS, could mediate hippocampal-neuron survival. Acts as a coreceptor (CD4 being the primary receptor) for HIV-1 X4 isolates and as a primary receptor for some HIV-2 isolates. Promotes Env-mediated fusion of the virus. **Subunit:** Monomer. Can form dimmers. **Subcellular Location:** Cell membrane; Multi-pass membrane protein. **Tissue Specificity:** Expressed in numerous tissues, such as peripheral blood leukocytes, spleen, thymus, spinal cord, heart, placenta, lung, liver, skeletal muscle, kidney, pancreas, cerebellum, cerebral cortex and medulla (in microglia as well as in astrocytes), brain microvascular, coronary artery and umbilical cord endothelial cells. Isoform 1 is predominant in all tissues tested. **Post-translational modifications:** 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. 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. DISEASE: Defects in CXCR4 are a cause of WHIM syndrome (WHIM) [MIM:193670]; also known as warts, hypogammaglobulinemia, infections and myelokathexis. WHIM syndrome is an immunodeficiency disease characterized by neutropenia, hypogammaglobulinemia and extensive human papillomavirus (HPV) infection. Despite the peripheral neutropenia, bone marrow aspirates from affected individuals contain abundant mature myeloid cells, a condition termed myelokathexis. **Similarity:** Belongs to the G-protein coupled receptor 1 family.

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	Database links: **Entrez Gene:** 7852 Human **Entrez Gene:** 12767 Mouse **Entrez Gene:** 60628 Rat Omim: 162643 Human **SwissProt:** P61073 Human **SwissProt:** P70658 Mouse **SwissProt:** O08565 Rat **Unigene:** 593413 Human CXCR4It is a receptor in leukocytes.，It plays an important role in regulating cell movement in the immune system.，It is currently mostly used in research related to tumour cell growth and invasiveness.

[VALIDATION IMAGES]

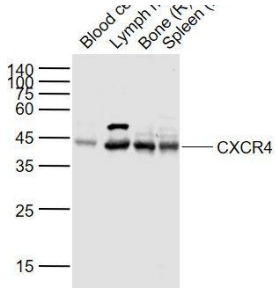


Figure 1. Sample: Lane 1: Blood cell (Mouse) Lysate at 40 ug Lane 2: Lymph node (Mouse) Lysate at 40 ug Lane 3: Bone (Rat) Lysate at 40 ug Lane 4: Spleen (Rat) Lysate at 40 ug Primary: Anti-CXCR4 (SL20317R) at 1/1000 dilution Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution Predicted band size: 45 kD Observed band size: 44 kD

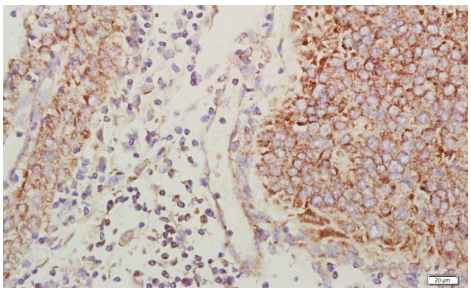


Figure 2. Paraformaldehyde-fixed, paraffin embedded Human Esophageal Cancer; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; Antibody incubation with CXCR4 Polyclonal Antibody, Unconjugated (SL1011R) at 1:400 overnight at 4°C, followed by conjugation to the SL0295G-HRP and DAB (C-0010) staining

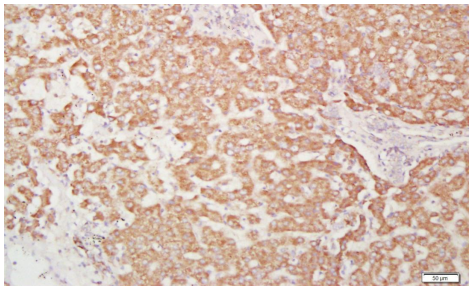


Figure 3. Paraformaldehyde-fixed, paraffin embedded Human Liver Cancer; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; Antibody incubation with CXCR4 Polyclonal Antibody, Unconjugated (SL1011R) at 1:400 overnight at 4°C, followed by conjugation to the SL0295G-HRP and DAB (C-0010) staining

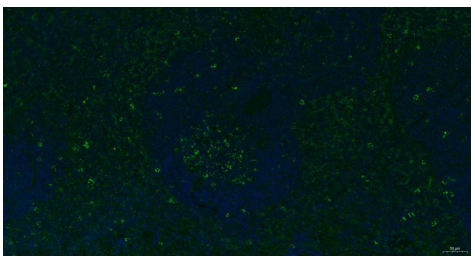


Figure 4. Paraformaldehyde-fixed, paraffin embedded Rat spleen; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; Antibody incubation with CXCR4 Polyclonal Antibody, Unconjugated (SL1011R) at 1:200 overnight at 4°C. Followed by conjugated Goat Anti-Rabbit IgG antibody (green, SL0295G-BF488), DAPI (blue, C02-04002) was used to stain the cell nuclei

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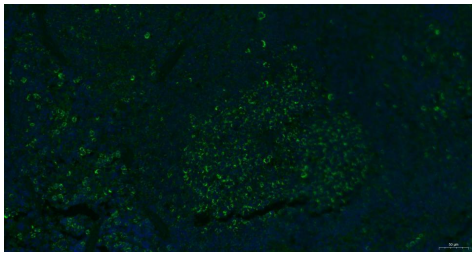


Figure 5. Paraformaldehyde-fixed, paraffin embedded Mouse spleen; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; Antibody incubation with CXCR4 Polyclonal Antibody, Unconjugated (SL1011R) at 1:200 overnight at 4°C. Followed by conjugated Goat Anti-Rabbit IgG antibody (green, SL0295G-BF488), DAPI (blue, C02-04002) was used to stain the cell nuclei

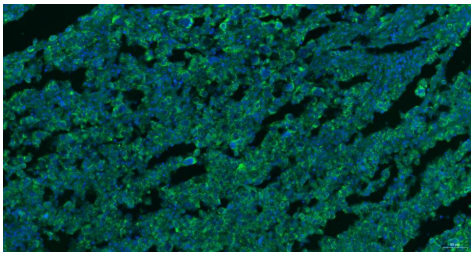


Figure 6. Paraformaldehyde-fixed, paraffin embedded Human lung cancer; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; Antibody incubation with CXCR4 Polyclonal Antibody, Unconjugated (SL1011R) at 1:200 overnight at 4°C. Followed by conjugated Goat Anti-Rabbit IgG antibody (green, SL0295G-BF488), DAPI (blue, C02-04002) was used to stain the cell nuclei

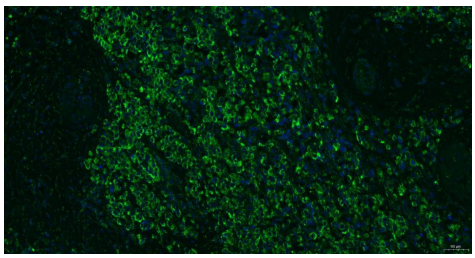


Figure 7. Paraformaldehyde-fixed, paraffin embedded Human prostate tumor; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; Antibody incubation with CXCR4 Polyclonal Antibody, Unconjugated (SL1011R) at 1:200 overnight at 4°C. Followed by conjugated Goat Anti-Rabbit IgG antibody (green, SL0295G-BF488), DAPI (blue, C02-04002) was used to stain the cell nuclei

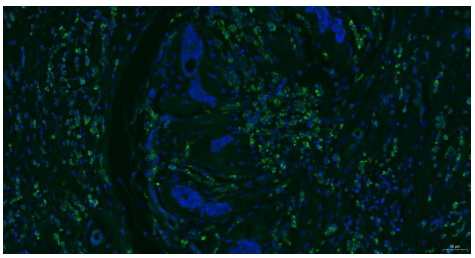


Figure 8. Paraformaldehyde-fixed, paraffin embedded Human Breast Cancer; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; Antibody incubation with CXCR4 Polyclonal Antibody, Unconjugated (SL1011R) at 1:200 overnight at 4°C. Followed by conjugated Goat Anti-Rabbit IgG antibody (green, SL0295G-BF488), DAPI (blue, C02-04002) was used to stain the cell nuclei

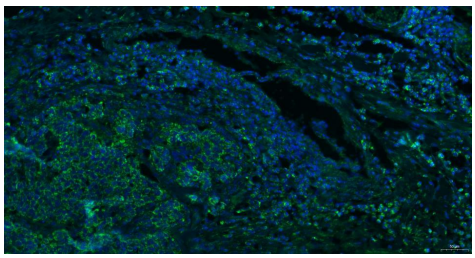


Figure 9. Paraformaldehyde-fixed, paraffin embedded Human esophageal cancer; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; Antibody incubation with CXCR4 Polyclonal Antibody, Unconjugated (SL1011R) at 1:200 overnight at 4°C. Followed by conjugated Goat Anti-Rabbit IgG antibody (green, SL0295G-BF488), DAPI (blue, C02-04002) was used to stain the cell nuclei

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