

Product datasheet for **TA305936**

CXCR4 Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	ELISA, IF, IHC, WB
Recommended Dilution:	WB: 1-2 µg/mL IHC-P/IF: 5-20 µg/mL.
	Antibody validated: Western Blot in human, mouse and rat samples Immunofluorescence in the human, mouse and rat samples. All other applications and species not yet tested.
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Immunogen:	Anti-CXCR4 antibody (1012) was raised against a peptide corresponding to 15 amino acids near the center of human CXCR4 isoform b. The immunogen is located within amino acids 170-220 of CXCR4.
Formulation:	CXCR4 Antibody is supplied in PBS containing 0.02% sodium azide.
Concentration:	1 mg/mL
Purification:	CXCR4 Antibody is Protein A purified.
Conjugation:	Unconjugated
Storage:	CXCR4 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Stability:	Stable for 12 months from date of receipt.
Predicted Protein Size:	Predicted: 40kD Observed: 44kD (Post-modification: 2 N-linked glycosylation)
Gene Name:	C-X-C motif chemokine receptor 4



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Database Link: [NP_003458](#)
[Entrez Gene 7852 Human](#)
[P61073](#)

Background: CXCR4, a G-protein coupled receptor (GPCR) with seven transmembrane domains, is a CXC chemokine receptor specific for stromal-derived-factor-1 (SDF-1 or CXCL12). CXCR4 was initially discovered as one of the co-receptors for HIV entry into CD4+ T cells (1). Blocking CXCR4 could be potentially used as novel therapeutics for HIV treatment. CXCR4 signaling plays an important role in the migration, proliferation and quiescence of hematopoietic stem cell and their retention within the bone marrow, where it has high levels of SDF-1/CXCL12(2). It has been demonstrated that CXCR4 signaling mediates CD20 up-regulation on B cells (3). CXCR4 is highly expressed in more than 23 types of cancer, including breast cancer, ovarian cancer, melanoma, and prostate cancer, while there is very less or no expression of CXCR4 in healthy tissues. CXCR4 expression in cancer cells has been reported to be associated with tumor survival, growth and metastasis in tissues with high levels of SDF-1/CXCL12, such as lungs, liver and bone marrow (4,5). CXCR4 has been shown to regulate neuronal migration, cell positioning and axon wiring (6,7). CXCR4 mutant mice displayed aberrant neuronal distribution, which implicates the role in neuronal disorders such as epilepsy. CXCR4 is also involved in WHIM syndrome (8). WHIM mutations in CXCR4 were recently found in patients with Waldenstrom's macroglobulinemia, and these mutations are correlated to clinical resistance to ibrutinib (9,10).

Synonyms: CD184; D2S201E; FB22; HM89; HSY3RR; LAP-3; LAP3; LCR1; LESTR; NPY3R; NPYR; NPYRL; NPY3R; WHIM

Note: Optimal dilutions for each application to be determined by the researcher.

Product images:

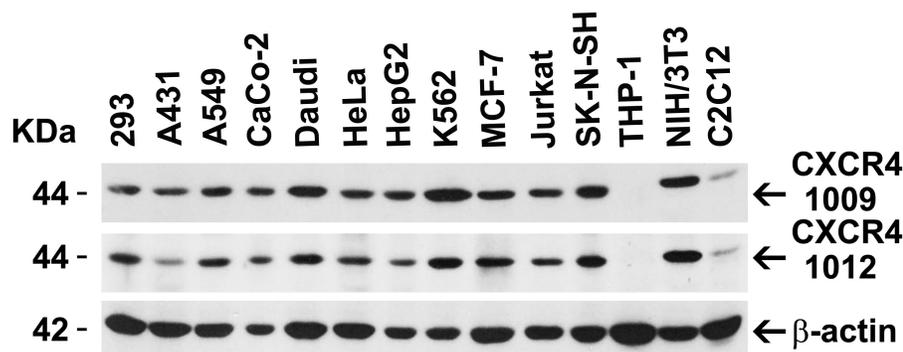


Figure 2 Independent Antibody Validation (IAV) via Protein Expression Profile
 Loading: 15 µg of lysates per lane. Antibodies: 1009 (1 µg/mL), TA305936 (1 µg/mL), and beta-actin (1 µg/mL), 1 h incubation at RT in 5% NFDM/TBST. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution.

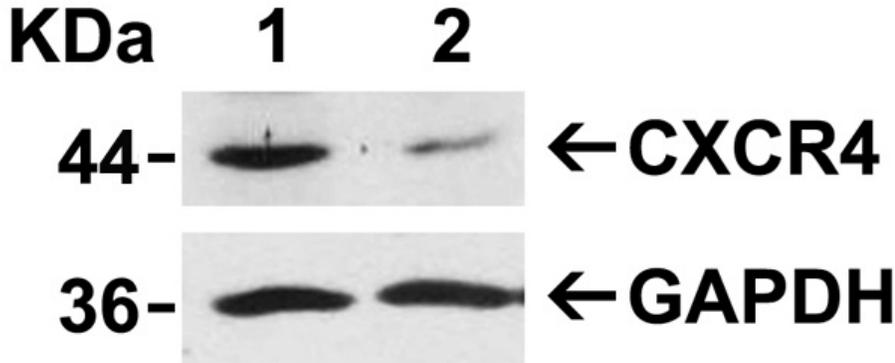


Figure 3 Validation with CXCR4 siRNA Knockdown in HeLa Cells

HeLa cells were transfected with control siRNAs (lane 1) or CXCR4 siRNAs (lane 2) Loading: 10 µg of HeLa whole cell lysates per lane. Antibodies: TA305936 (2 µg/mL), 1 h incubation at RT in 5% NFDM/TBST. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution.

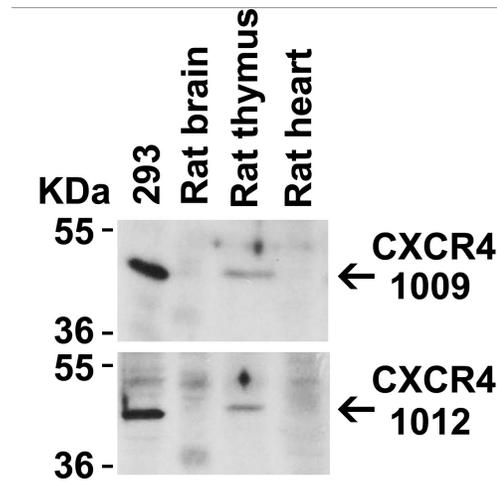


Figure 4 Animal Species Reactivity

Loading: Lysates/proteins at 20 µg per lane. Antibodies: 1009 (2 µg/mL) or TA305936 (2 µg/mL). 1 h incubation at RT in 5% NFDM/TBST. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution.

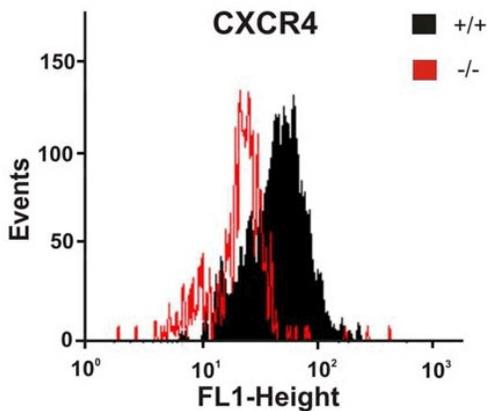


Figure 8 KO Validation of CXCR4 by Flow Cytometry (Ödemis, et al., 2010)

Astrocytes from wild-type or CXCR4 knockout mice were stained with primary antibodies against CXCR4 and FITC-labeled secondary antibodies, and subsequently subjected to flow cytometry. CXCR4^{-/-} astrocytes (red) showed loss of CXCR4 cell-surface expression compared with wild-type cells (black).

B

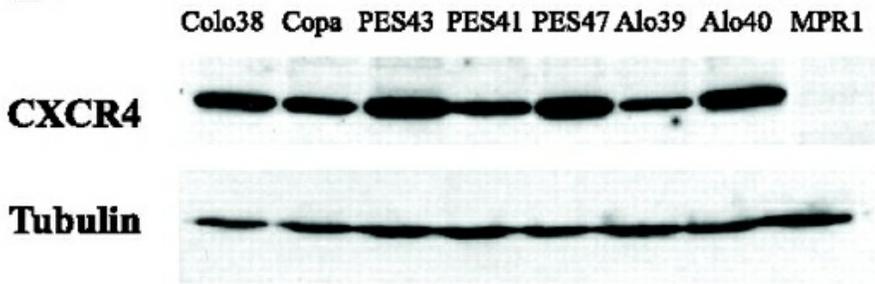


Figure 10 WB Validation of CXCR4 in Human Metastatic Melanoma (Scala et al., 2006)
CXCR4 protein was detected in the human metastatic melanoma cell lines and human melanoma cell line (colo38), but not in the human primary melanocytes (MPR1) with anti-CXCR4 antibodies.

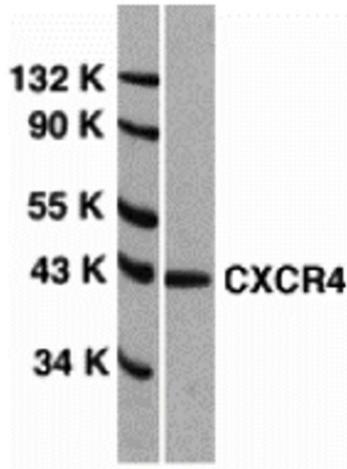


Figure 1 Western Blot Validation of CXCR4 in HeLa Cells

Loading: 15 µg of lysates per lane. Antibodies: TA305936 (1 µg/mL), 1 h incubation at RT in 5% NFDm/TBST. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution.