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DARC Antibody

Catalog # ASC10513

Product Information

Application	WB, E, IHC-P
Primary Accession	Q16570
Other Accession	Q16570, 67476970
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	35553
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	DARC antibody can be used for detection of DARC by Western blot at 0.5 - 2 g/mL. Antibody can also be used for immunohistochemistry starting at 2.5 g/mL.

Additional Information

Gene ID	2532
Other Names	DARC Antibody: FY, Dfy, GPD, GpFy, ACKR1, CCBP1, CD234, WBCQ1, FY, Atypical chemokine receptor 1, Duffy blood group, chemokine receptor
Target/Specificity	DARC;
Reconstitution & Storage	DARC antibody can be stored at 4℃ for three months and -20℃, 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.
Precautions	DARC Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ACKR1
Function	Atypical chemokine receptor that controls chemokine levels and localization via high-affinity chemokine binding that is uncoupled from classic ligand-driven signal transduction cascades, resulting instead in chemokine sequestration, degradation, or transcytosis. Also known as interceptor (internalizing receptor) or chemokine-scavenging receptor or chemokine decoy receptor. Has a promiscuous chemokine- binding profile, interacting with inflammatory chemokines of both the CXC and the CC subfamilies but not with homeostatic chemokines. Acts as a receptor for chemokines including CCL2, CCL5, CCL7, CCL11, CCL13, CCL14, CCL17, CXCL5, CXCL6,

	IL8/CXCL8, CXCL11, GRO, RANTES, MCP-1 and TARC. May regulate chemokine bioavailability and, consequently, leukocyte recruitment through two distinct mechanisms: when expressed in endothelial cells, it sustains the abluminal to luminal transcytosis of tissue-derived chemokines and their subsequent presentation to circulating leukocytes; when expressed in erythrocytes, serves as blood reservoir of cognate chemokines but also as a chemokine sink, buffering potential surges in plasma chemokine levels. (Microbial infection) Acts as a receptor for the malaria parasite Plasmodium knowlesi.
Cellular Location	Early endosome. Recycling endosome. Membrane; Multi-pass membrane protein. Note=Predominantly localizes to endocytic vesicles, and upon stimulation by the ligand is internalized via caveolae. Once internalized, the ligand dissociates from the receptor, and is targeted to degradation while the receptor is recycled back to the cell membrane
Tissue Location	Found in adult kidney, adult spleen, bone marrow and fetal liver. In particular, it is expressed along postcapillary venules throughout the body, except in the adult liver. Erythroid cells and postcapillary venule endothelium are the principle tissues expressing duffy. Fy(-A-B) individuals do not express duffy in the bone marrow, however they do, in postcapillary venule endothelium

Background

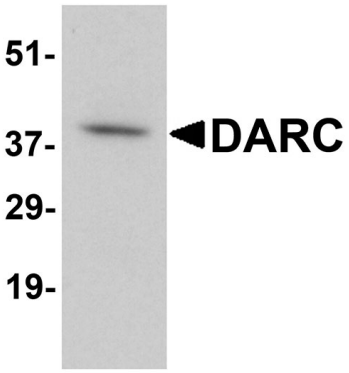
DARC Antibody: DARC, also known as the Duffy antigen/chemokine receptor, is a seven-transmembrane protein homologous to the classical chemokine G-protein coupled receptors (GPCRs) with the exception of the motif required for G protein coupling. DARC can bind with high affinity several chemokines without transducing any signal, suggesting it may modulate the signals normally induced by these chemokines. Recently, DARC was found to interact with KAI1, a four transmembrane protein recently identified as a tumor metastasis suppressor protein. It is thought that tumor cells dislodged from the primary tumor and expressing KAI1 interact with DARC proteins expressed on vascular cells, transmitting a senescent signal to the tumor cells, while tumor cells that have lost KAI1 expression can proliferate and potentially give rise to metastases. At least three isoforms of DARC are known to exist.

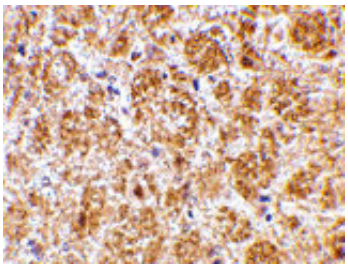
References

Chaudhuri A, Polyakova J, Zbrzezna V, et al. Cloning of glycoprotein D cDNA, which encodes the major subunit of the Duffy blood group system and the receptor for the Plasmodium vivax malaria parasite. Proc. Natl. Acad. Sci. USA1993; 90:10793-7.
Gardner L, Patterson AM, Ashton BA, et al. The human Duffy antigen binds selected inflammatory but not homeostatic chemokines. Biochem. Biophys. Res. Commun.2004; 321:306-12.
Gil ML, Vita N, Lebel-Binay S, et al. A member of the tetra spans transmembrane protein superfamily is recognized by a monoclonal antibody raised against an HLA class I-deficient, lymphokine-activated killer-susceptible, B lymphocyte line. Cloning and functional studies. J. Immunol.1992; 2826-33.

Images

Western blot analysis of DARC in human cerebellum tissue lysate with DARC antibody at 1 µg/mL.





Immunohistochemistry of DARC in mouse brain tissue with DARC antibody at 2.5 µg/mL.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.