BACKGROUND

Chemokines (Chemotactic Cytokines) belong to a family of chemoattractant molecules involved in the directed migration of immune cells. Over fifty human chemokines have been identified that can be categorised into four groups; CC, CXC, CX3C and C (XCL1 and XCL2); depending on the spacing of their first two cysteine residues. Chemokines exert their effects by binding to G-protein-coupled chemokine receptors on the surface of cells, predominantly leukocytes. Eighteen human chemokine receptors have been identified that are classified according to the class of chemokines that they bind.[1] The major function of chemokines is to regulate leukocyte trafficking in hematopoiesis and in innate and adaptive immunity. Other functions include angiogenic activity, apoptosis, T-cell differentiation and phagocyte activation. Inadvertent activation of chemokine receptors leads to autoimmunity by inappropriately targeting self antigens for destruction by cytotoxic T-cells and macrophages.[2]

Interleukin (IL)-8, an approximately 8.5 kDa protein, a member of the CXC chemokine superfamily and is produced by a wide array of cell types, including epithelial cells, neutrophils, and macrophages in response to microbial infections. In healthy tissues, IL-8 is barely detectable, but is rapidly induced by nuclear factor kappaB (NF-kappaB) and activator protein 1 (AP-1)-dependent inflammatory stimuli such as TNFalpha, bacteria or virus. Neutrophil are major specific target for IL-8 action. This allows neutrophil to eradicate the invading pathogen within the site of infection. However, many pathophysiological actions of IL-8 also depend on activation of neutrophils. IL-8 is in routine use as a marker for various clinical conditions. In addition to be a potent chemoattractant and activator for neutrophils, T-cells, basophils, and eosinophils, IL-8 was alsoshown to promote the movement of cells of different lineages, such as fibroblasts and keratinocytes. Moreover, it was shown that IL-8 induced the migration of tumor cells and its expression was correlated with tumor growth, angiogenesis and metastatic potential in various human carcinomas and animal models.[3] It was suggested that constitutive expression of IL-8 in tumor cell lines is associated with the metastatic potential and that IL-8 might act as an autocrine/paracrine growth factor in colon cancer progression and metastasis. The activities of IL-8 are mediated through its binding to specific GTP-coupled, seven-helix transmembrane receptors: CXCRl and CXCR2 (also known as IL-8 receptors type A and type B, respectively).[4] IL-8 also binds to a receptor on erythrocytes, DARC, which binds a number of both CXC and CC chemokines.

References:
1. Zlotnik, A. & Yoshie, O.:Immunity 12:121-27, 2000
2. Locati, M.: Ann. Rev. Med. 50:425-40, 1999
3. Rubie, C. et al: World J Gastroenterol. 13:4996-5002, 2007
4. Feniger-Barish, R. et al: Biochem. 42:2874-86, 2003

TECHNICAL INFORMATION

Source:
IL-8 Antibody is a mouse monoclonal antibody raised against recombinant human IL-8 fragments expressed in *E. coli*.

Specificity and Sensitivity:
This antibody detects endogenous IL-8 proteins without cross-reactivity with other family members.

Storage Buffer: PBS and 30% glycerol

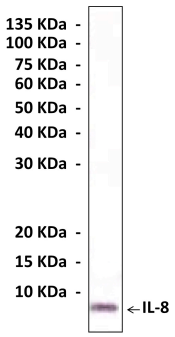
Storage:
Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

APPLICATIONS

Application:	*Dilution:
WB	1:1000
IP	1:50
IHC	n/d
ICC	n/d
FACS	n/d

**Optimal dilutions must be determined by end user.*

QUALITY CONTROL DATA



Western Blot detection of IL-8 proteins in *E. coli* cell lysate containing recombinant human IL-8 proteins using IL-8 Antibody.