

Definitions:

Incel DX

Cytokine array 14

IL6 is high in inflammation and pain with major function being differentiation of B cells into plasma cells and IgG production, it is associated with **oxidative stress, inflammation, endothelial dysfunction and thrombogenesis (This cytokine also confers a pro-thrombotic environment by inducing the expression of fibrinogen, the precursor of fibrin and is up in COVID) IL 6 is secreted by macrophages and stimulates the production of neutrophils in the bone marrow**

IFN gamma = proinflammatory cytokine with antiviral action and activation of macrophages, increases WBC and monocytes on MHC1 and MHCC11 expression on cells

IL2= proliferation and activation of NK cells, T and B cells

IL4 a cytokine that induces naïve helper cells to TH2 cells. **IL4** is also made by mast cells, eosinophils and basophils

IL8 is a chemokine produced by **mast cells**

IL10 is an inflammatory cytokine

IL13 is a mediator of allergic inflammation, and is produced by TH2 cells, mast cells and is a key regulator of IGE, and mucous secretion and airway hyperresponsiveness

GMCSF is produced by mast cells, T cells and fibroblasts and stimulates granulocytes, monocytes and eosinophils

IFN gamma is a cytokine produced by NK and NKT cells as an immune response

CCL3 is involved in NK cell and T cell migration and is a chemokine involved in the acute inflammatory state. It also recruits and activates polymorphonuclear leukocytes

VEGF = vascular inflammation and indicates fractalkine is activated

TNF alpha is a pro inflammatory cytokine and indicates macrophage activation

sCD40L- is platelet activator

TNF- α and IFN- γ induce CX3CL1/Fractalkine production by vascular endothelial cells creating the conditions to promote survival of nonclassical monocytes.

CCR5 is a protein on the surface of white blood cells that is involved in the immune system as it acts as a receptor for cytokines. CCL5 is produced by PLATELETS, MACROPHAGES, eosinophils, fibroblasts, ENDOTHELIUM, epithelial and endometrial cells." **Innate immune cells, NK cells, macrophages and dendritic cells all have CCR5 receptors**

RANTES is a chemokine secreted by platelets that have been activated predominantly during flow conditions.

RANTES is important in perivascular recruitment of IFN- γ -producing T cells, which may affect vascular dysfunction

RANTES is secreted by endothelium, epithelial, t-cells, and macrophages

CCL5/RANTES mediates recruitment of T lymphocytes and monocytes; it has also been implicated in arterial injury and in sustaining CD8 T-cell responses during a viral infection [9].

<https://pubmed.ncbi.nlm.nih.gov/25152735/> "CCL5 is released and deposited on endothelium by activated platelets thereby triggering atherogenic monocyte recruitment, which can be attenuated by blocking the corresponding chemokine receptor CCR5."