

Featured Pathway: Inflammatory Cytokines and Receptors

Inflammation

Inflammation is an important aspect of the body's normal response to pathogens. Inflammation is also a key component of disease states such as allergies, asthma, arthritis, and others. The genes involved in mediating the signaling cascade that propagates the inflammatory response are represented on the two focused array platforms below: Oligo GEArray® Microarrays and PCR Arrays. With these array systems you can use expression data focused on genes related to inflammatory cytokines and receptors to compare samples in your experimental model system. For example, these arrays can help you determine which genes are expressed in your activated immune cell of choice or determine to which treatment a given cell type responds.

Oligo GEArray® Microarrays

The Oligo GEArray® Inflammatory Cytokines & Receptors Microarray (OHS-011) contains 113 genes encoding cytokines and interleukins associated with the inflammatory response, and their receptors. Other related genes are also present on the array such as TGF ligands and TNF ligands as well as their receptors.

Inflammatory Cytokines & Receptors Microarrays

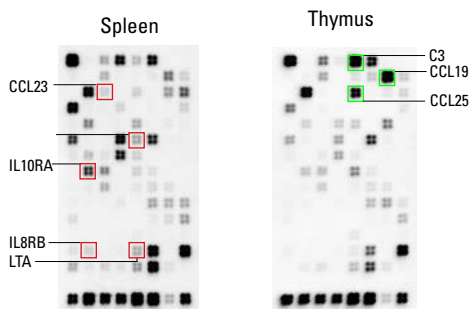


Figure 1: Differential expression of inflammatory cytokines between thymus and spleen. The Oligo GEArray Inflammatory Cytokines and Receptors Microarray (OHS-011) was used to compare the relative expression of 113 genes related to the inflammatory response between human thymus and spleen tissues. Total RNA samples from human thymus and spleen (BioChain Institute, Inc., 3 µg) were characterized using the array and reagents from the Oligo GEArray Starter Kit (GA-029) as described in the User's Manual. Raw microarray images are displayed. Genes with higher expression in spleen are indicated in red. Genes with higher expression in thymus are indicated in green.

RT² Profiler™ PCR Array

The RT² Profiler™ Inflammatory Cytokines & Receptors PCR Array (APH-011) contains 84 genes encoding chemokines and interleukins associated with the inflammatory response, as well as their receptors.

Inflammatory Cytokines and Receptors PCR Arrays

Table 1: Differential expression of Inflammatory Cytokines Between Thymus and Spleen as determined by PCR Array. Total RNA samples from human thymus and spleen (BioChain Institute, Inc., 0.5 µg) were characterized using the Human Inflammatory Cytokines & Receptors PCR Array and the RT² SYBR Green/Fluorescein PCR master mix (PA-011) on the Bio-Rad iCycler®, as described in the PCR Array User Manual. Fold-changes in gene expression were calculated from the raw C_t values obtained by the instrument. The table lists the genes with a greater than four-fold difference in gene expression between the two tissues. Genes with higher expression in spleen are indicated in red. Genes with higher expression in thymus are indicated in green.

Gene Symbol	Raw C _t Spleen	Raw C _t Thymus	Fold Change Spleen / Thymus
CXCL13	24.3	32.0	123
IL8RB	25.0	32.1	81
CXCL6	23.8	30.4	57
IL8RA	25.8	31.8	38
CXCL1	23.0	27.7	15
CCL11	28.9	33.0	10
CCL23	30.9	35.1	10
CCR6	28.0	31.4	6.2
LTA	28.2	31.0	4.1
CCL8	30.7	29.4	-4.2
CCL17	33.8	31.9	-6.3
CCL18	27.3	25.4	-6.3
CCL26	33.9	31.9	-6.8
CCL20	35.5	32.9	-7.3
CCR8	32.1	28.8	-17
CCL19	27.0	23.4	-21
CCL13	33.8	29.2	-41
C3	29.9	24.8	-58
CCR9	32.4	26.3	-116
CCL25	35.8	26.0	-867

Oligo GEArrays®:

Human Inflammatory Cytokines and Receptors	OHS-011
Mouse Inflammatory Cytokines and Receptors	OMM-011
Rat Inflammatory Cytokines and Receptors	ORN-011

RT² Profiler™ PCR Arrays:

Human Inflammatory Cytokines and Receptors	APH-011
Mouse Inflammatory Cytokines and Receptors	APM-011