with receptor binding IL-1x and IL-1β and there are nine IL-1 receptors widely distributed in tissues. Polymorphisms in cytokines has been described to associated with different pathologies and some of them have been correlated with enhancement or diminished the production of this molecules. The aim of this study is to determine the association between polymorphisms in genes of the family members of the IL-1 and cervical cancer. Polymorphisms of IL-1x -889 C/T, IL-1β -511 C/T, †3962 T/C, IL-1R PstI1970 C/T and IL-1RA mspal 11100 were determine in 19 healthy women and in 50 women with cervical cancer from the Occident of Mexico. We found statistical differences in IL-1x -889 C/T; with a higher frequency of the allele T in cervical cancer women compared with healthy controls, with a p = 0.0199, and OR of 4.099 and Cl 95% 1.161-14.47; beside we found the CC genotype predominantly in healthy women p = 0.0255 and CT genotype with p = 0.0481 than women with cervical cancer. We did not found statistical differences in the others polymorphisms. The T allele of IL-1-889 has been implicated in the increase of the expression and production of this cytokine in different studies and could participate in the chronic inflammation that has been associated with the progress to cervical cancer.


Chemokines

PS3-64
The role of CCL5/RANTES in regulating nutrient receptor trafficking, metabolism and protein expression in activated T cell

Olivia Chan1, Thomas T. Murouko1,2, Eleanor N. Fish1,3,1, 1Department of Immunology, University of Toronto, Toronto, Ontario, 1The Center for Immunology and Infectious Diseases, Massachusetts General Hospital, Charlestown, MA, 4Division of Cellular Molecular Biology, Toronto General Hospital Research Institute, Toronto, Ontario

Recruitment of effector T cells to sites of infection is imperative for an effective adaptive immune response. The inflammatory chemokine CCL5/RANTES activates its cognate receptor, CCx5, to initiate a number of cellular functions, including proliferation, chemotaxis, cytokine production, and apoptosis. We have shown that CCL5/CCx5 signaling activates the mTOR/4E-BP1 pathway to directly modulate mRNA translation. Moreover, CCL5-mediated mTOR activation influences T cell chemotaxis by initiating the translation of chemotaxis-related proteins, including MMP-9 and cyclin D1. Up-regulation of chemotaxis-related proteins may “prime” T cells for efficient migration. It is now clear that mTOR is a central regulator of cell size, nutrient sensing and glycolysis. In continuing studies, we are investigating the ability of CCL5 to regulate T cell metabolism through the PI-3K/mTOR pathway. Data generated in ex vivo activated human T cells show that CCL5 treatment, at doses that invoke chemotaxis, induces the activation of nutrient sensing kinase AMPK and key glycolytic metabolites including GSK-3β. This suggests that CCL5 may be up-regulating ATP-consuming pathways and modulating glycolysis. Flow cytometry data show that CCL5 is also able to up-regulate the expression of amino acid transporter CD98, while consuming pathways and modulating glycolysis. Flow cytometry data show that the cytokine IL-1 -889 has been implicated in the increase of the expression and production of this cytokine in different studies and could participate in the chronic inflammation that has been associated with the progress to cervical cancer.

doi:10.1016/j.cyto.2010.07.404

Methods of Cytokine Detection

PS3-66
Milliplex® msa multiplex immunoassays for simultaneous detection of human and mouse cytokines/chemokines

Yao Chen, Brandon Proctor, Jehangir Mistry, Qiang Xiao, Millipore Bioscience Division, St. Charles, MO 63304

Cytokine and chemokines are soluble proteins that exert a number of biological functions in both normal conditions and disease states such as metabolic disease, arthritis, sepsis, and cancer. Using Lumines’ xMAP technology, we previously developed and commercialized the MILLIPLEX Human Cytokine/Chemokine 42-plex Panel and Mouse Cytokine/Chemokine 32-plex panel, which allow the simultaneous measurement of 42 human cytokines or 32 mouse cytokines with minimal requirement of sample volume (12.5μl-25μl). Recently, we expanded our cytokine/chemokine portfolio with two new Human Cytokine Panels (Panel II: 23-plex; Panel III: 11-plex) and two new Mouse Cytokine Panels (Panel II: 12-plex; Panel III: 6-plex). Briefly, 25 μl of neat (human) or 1:2 diluted (mouse) serum/plasma sample was incubated overnight at 4°C in a 96-well filter plate with a mixed population of Lumines bead which, each of which contains a unique fluorescent signature and covalently coupled with a specific capture antibody. After washing, the plate was incubated with 25 μl biotinylated detection antibodies for 1 h and, subsequently, with 25 μl streptavi- din-phycocerythrin solution for 30 min at RT. Fluorescent signal of the beads was read using a Lumines 200 reader. Sample concentrations were calculated with 5-paramet- ter logistic curve-fitting method. The analytical robustness of these assays is demonstrated by high accuracy (spike-recovery: 96–111%) and good precision (intra-assay CV: <10%; inter-assay CV: <16%). These new MILLIPLEX panels are highly sensitive and display no significant cross-reactivity within each panel. In addition, the assays were validated in normal serum/plasma, sepsis serum, and LPS-challenged PBMC tissue and display no significant cross-reactivity within each panel. In summary, our MILLIPLEX msa cytokine multiplex assays are specific, accurate, reproducible and user-friendly. The availability of these assays provides useful tools for the investigation of biological functions of cytokines/chemokines in various diseases.

doi:10.1016/j.cyto.2010.07.405

PS3-67
High dynamic range (HDR) immunoassay for the multiple simultaneous quantification of cytokines

Chris Lyman, Abby Tyler, Quansys Biosciences

The need for both high throughput immunoassays and immunoassays which can measure broad ranges of analyte is increasing. Traditionally, immunoassays must be built to focus on either sensitivity or the ability to quantitatively high analyte concentra- tions. Rarely have there been assays which can achieve high sensitivity while main- taining the ability to quantitatively high analyte concentrations. Faced with these limitations, researchers have had to test multiple dilutions of their sample to ensure

Abstracts / Cytokine 52 (2010) 82–98