Background: Over the last years several software tools for flow cytometry (FCM) data visualization have been developed (e.g. WinMDI, Cyflogic, flowingsoftware). These programs work in general with FCS2 data format. But, some FCM acquisition software provides LMD-files which contain both data parts. FCS3 part contains the original measured FCM data, cytometer setting and compensation matrix. Only a few software tools could open LMD-files so far (e.g. flow2Go, Cytospec).

Aim: Here we introduce an easy Microsoft (MS) Windows software application for data export of FCS2, FCS3 and LMD files. The prominent features of the recent software tool are: freeware, works offline without installation, download from www.tissomics.de. The software might be of interest especially for students using FCM technique, because it is for free, can be started from USB stick on PC system and produces data tables and images for further analysis, presentations and publications.

Methods: LMD files were created by Navios flow cytometry software package (Beckman-Coulter GmbH). We programmed a simple software-tool for data visualization and export using MS Dot. Net Framework 3.5. The software is compatible with MS Windows XP/Vista/7. Features are described in detail in the results section.

Results: The software has a user friendly layout. Several windows may be opened simultaneously. 'Measurement parameters' and 'setting' can be exported as txt files. A table of all events (max. 1.000.000) or just a user-defined event-count with all corresponding parameters can be exported as txt-file. The compensation matrix is visualized and can be exported as well. Dotplots and histograms can be visualized and exported as image.

Conclusion/Perspective: Here we provide a freeware for the export of measurement data and results in txt-format, as well as a fast visualization tool. We constantly optimize the recent version. We will include density dotplot visualization and data analysis tools in the upcoming versions.

Other Biological Applications (B178 – B186)

316/B178

Sphingolipid from *Leishmania donovani* Alter Ethanol-Induced Gastric Ulcer through Inhibition of Inflammatory Responses

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Ethanol is the major contributor of many medical conditions; overall, 3.5% of the global burden of diseases is attributable to alcohol abuse. Various reports shown that acute to chronic consumption of alcohol could upshot in irreversible organ damage. The ethanol metabolism generates excess amounts of reactive oxygen species which associated the immune dysfunction and consequences of gastric lesions that critically turn towards the carcinogenesis. This is our new venture towards gastric damage via regulating the inflammatory responses.

Moreover micro-organisms and its cellular component(s) may possess some degree of bioactivity, against certain physiological states of a diseased body. Recently, we have shown that lipid from an attenuated strain of *Leishmania donovani* promastigote (MHO/IN/1978/UR6), suppress several inflammatory mediators of rheumatoid arthritis patients and induce apoptosis in hyper-proliferative cancer cells. Simultaneously the dietary phospholipids may prove to be significance with regards to management of several gastic and duodenal ulceration. Here, we shown that LSPL play their role via immunomodulation and vascular function in rat gastropathy induced by chronic ethanol consumption with measuring the proteins, antioxidant enzymes and non-enzymes such as GSH, TBARS and SOD, CAT, in tissue homogenate with restoration of tissue homeostasis. Ethanol could generate several cytokines including TNF-α, IL-1β, IL-6, IL-10, IL-12, IL-17 IFN-γ with activation of NF-kB , that regulated by LSPL as assayed from serum and mucosal cells using flow cytometric and immunoassays. During gastric injury, cells could produce several inflammatory mediators like iNOS, COX-2, PGE-2 expression are controlled by LSPL from immune-localisation studies. The ethanol induced ulceration could boost up neutrophils infiltration and this recruitment might driven the several of cell adhesion molecules mainly E-selectin, p-selectin with the involvement of ICAM-1, VACM-1 that are subdued by prolong administration of LSPL in rats. Interestingly we also correlate the classical angiogenic factor VEGF, HIF-1α during the gastric inflammatory responses modulated by LSPL. Considering the current therapies, based on the use of anti-secretory or cytoprotective drugs, the LSPL from microbioal origin may arises a promising alternative antiulcer therapy with regulation of inflammatory responses and angiogenic process.

317/B179

Flow Cytometry and Food Hydrocolloids: Milk Fat Globules Characterization

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Background: The physical and colloidal properties of milk fat globules (MFGs) are under considerable investigation with different physical methods. This activity is caused by a role of milk fat in contributing to health and disease. Additionally the MFGs are integral to the manufacture and characteristics of many dairy products. A surface area is the most important characteristic of the globules because they are surrounded by a membrane composed mainly of bioactive molecules like proteins, phospholipids, triglycerides, enzymes, etc. Existing methods to determine size of the individual MFGs do not have very good precision of individual measurements, partly due to uncertainties in the refractive index.

Methods: Experimental basis of this work is scanning flow cytometry technique that allows one to measure light scattering patterns of individual MFGs. Solving the inverse scattering problems we obtain size and refractive index of each MFG, assuming a homogeneous-sphere optical model. We studied two samples of commercially processed milk -and one sample of raw bovine milk, which hasn't undergone any treatment. Samples temperature was 25±1°C.

Results: We obtained the distribution of MFGs in three samples over size and refractive index. The mean sizes of MFGs in raw milk were about 1.6 μm and 1 μm in processed milk samples. Two samples of processed milk appeared to differ in refractive indices which the mean values were 1.506 and 1.493 respectively. Median precisions of individual measurement were about 15 nm and 0.007 in diameter and refractive index respectively.

Conclusions: Scanning flow cytometry is a potent method to analyze MFGs with high speed and high precision of individual measurements. This can be used in dairy industry for quality control or for tuning the properties of the milk products.

318/B180

Antibody Fluorophore Conjugation: A Simple Cell-Free Method for Quality Control

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