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Differential expression of granzyme A and B in individuals with filarial infections

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Granzyme A and B have been shown to play crucial role in *Litomosoides sigmodontis* infection, however, their importance in human filariasis remains to be fully characterized. To determine the expression pattern of human granzyme A and B in *W. bancrofti*-infected individuals as well as endemic normals, FACS intracellular staining was performed and measured with flow cytometer. The frequency of $CD4^+$ T and $CD8^+$ T cells expressing GZMB was significantly higher in *W. bancrofti*-infected compared to EN. To further establish whether $CD4^+$ T and $CD8^+$ T cells expressing GZMB are infection status depend, group-wise comparisons were performed. Interestingly, increased frequencies of $CD4^+GZMB^+$ and $CD8^+GZMB^+$ expressing T-cells were observed in the MF+ population compared to MF- and EN. In contrast, when compared to EN, there were no differences in the frequencies of $CD4^+GZMA^+$-expressing T in *W. bancrofti* infected group; however, upon further analysis, $GZMA^+$-producing $CD4^+$ and $CD8^+$ T cells were significantly increased in MF-, but were highly expressed in MF+ and EN. In general the proportion of $CD8^+GZMA^+$ expressing T-cells was almost 2 fold of $CD4^+GZMA^+$ expressing T-cells. The results demonstrate that individuals with patent infection present increased frequencies of GZMB-producing $CD4^+$ and $CD8^+$ T cells, which may support MF survival or facilitate peripheral circulation given that GZMB has a unique degradation of extracellular matrix, whereas up-regulation of GZMA levels in MF- individuals and EN could promote protection against filarial.

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HIV cure and latency: New targets and therapeutics

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HIV has been a challenge to the scientific community in many areas such as HIV cure and Latency, HIV Immune enhancement and activation, concerning a vaccine, also adding to its complication, NeuroAIDS a disorder which has affected 50 percent of adults with AIDS according to NIH Aids.gov. There is also the challenge of HIV medication adverse effect and those who are on lifelong therapeutics, in which these challenges has been overcome by new targets and therapeutics that are sure to deliver. Presentation: HIV cell entry and NMDA receptors involvement, Germ line mutation, Endogenous Retrovirus. The identification of several HIV microorganisms. Immune Repertoire challenges.

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