P-61

QUINOLINES COMPOUNDS INDUCE INHIBITION OF SPONTANEOUS PROLIFERATION OF PERIPHERAL BLOOD MONONUCLEAR CELLS (PBMC) FROM HTLV-1 INFECTED INDIVIDUALS

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Spontaneous proliferation (SP) is the immunological hallmark of peripheral blood mononuclear cells (PBMC) from HTLV-1-infected individuals and may play a role in the pathogenesis of HTLV-1-associated diseases. Quinolines compounds *in vitro* down-regulate proliferation of HTLV-1 transformed cell lines. In this study, we assessed the capacity of 29 new quinolines to inhibit SP of PBMC from HTLV-1-infected individuals and the mechanisms involved in this inhibition. Toxicity of compounds was first assessed on PBMC from non-infected donors by Trypan Blue and XTT methods. Antiproliferative effect of quinolines was measured by a ^{3}H-thymidine incorporation assay on PBMC from HTLV-1-infected individuals. Proportion of CD4 and CD8 T cells producing Il-10, TNF-α and IFN-γ were evaluated after 20 hours of culture, by intracellular cytokine staining with flow cytometry. Sixteen compounds were non-toxic to PBMC from uninfected individuals. Six of them inhibited > 70% of SP of PBMC from HTLV-1-infected individuals. These compounds were non-toxic on PBMC from HTLV-1-infected individuals. Our preliminary results indicated that in the presence of MDS14, one of the six inhibitory compounds, increased the proportion of CD4 T cells producing IL-10 (2,10 ± 2,40% vs. 3,13±1,22%, respectively). In addition, MDS14 increased the proportion of CD8 T cells producing INF-g (2,26±0,76% vs. 5,59±6,15%, respectively), TNF-α (0,31 ± 0,40% vs. 1,92 ± 2,80%, respectively), IL-10 (1,02±0,47% vs. 2,62±3,1%, respectively). Our results indicate that six quinolines inhibited SP of PBMC from HTLV-1-infected individuals. We are now conducting experiments to investigate the cytokine profile in presence of other compounds and the effect on HTLV-1 proviral load.