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MEETING ABSTRACT

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APH-2 and Tax expression are correlated with a HTLV-2 proviral load but not with lymphocytosis

Estelle Douceron^{1,2,3}, Zhanna Kaidarova⁴, Paola Miyazato⁵, Masao Matsuoka⁵, Edward L Murphy⁴, Renaud Mahieux^{1,2,3*}

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The recent discovery of HBZ, an antisense protein, encoded by HTLV-1 allowed a new way of understanding how HTLV-1 induces the development of adult T cell leukemia/lymphoma (ATLL). HBZ mRNA is expressed in all HTLV-1 patients tested regardless of their clinical status. Furthermore HBZ mRNA level is positively correlated to the HTLV-1 proviral load and it involved in infected T cell proliferation. The HTLV-2 homolog of HBZ, APH-2, also represses the viral transcription from the 5' LTR. We therefore quantified APH-2 and Tax mRNA levels as well as proviral load in a series of 51 blood samples obtained from the HTLV Outcomes Study (HOST) cohort. These samples were divided in low, intermediate and high proviral load (PVL) groups. We first show that APH-2 was expressed in most (94%) samples, while Tax was expressed mostly in the high PVL group. A positive correlation was observed between PVL and Tax and between PVL and APH-2. Although lymphocytosis is commonly observed among HTLV-2 carriers, we also demonstrate that APH2, contrary to HBZ does not promote cell proliferation *in vitro*. These results were confirmed *in vivo* since we did not observe a correlation between APH-2 level and the lymphocyte count. Our results therefore demonstrate that APH-2 is frequently expressed *in vivo* in HTLV-2 carriers. However, and contrary to HBZ, APH-2 does not promote cell proliferation.

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