THE CHARACTERIZATION OF A HUMAN LACTOFERRIN (HLF) CELL LINE – HLF K1

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A human lactoferrin specific cell line was generated in CBA mice, primed with 200 µg HLF in Freund’s complete adjuvant. T-cells were derived from the lymph nodes of these mice and maintained using human lactoferrin as the antigen. HLF was added at the beginning of each restimulation, in a 14-day cycle. The presentation of the antigen to the HLF-specific T-cell line was demonstrated using glass-adherent (GAL) splenocytes. The presentation of HLF by GAL was highly efficient, i.e. a very low concentration of the antigen (1 µg/ml) and low numbers of antigen-presenting cells stimulated proliferation of the HLF K1 cell line. HLF K1 did not proliferate in the presence of ovalbumin along with bovine lactoferrin (BLF), which is structurally related to HLF. However, we found that BLF caused a reduction in T-cell proliferation (when BLF was added to the cultures together with the antigen, HLF). On the other hand, proliferation of the HLF K1 cell line was not inhibited by a pretreatment of antigen presenting cells (GAL) or T-cells with BLF. Therefore, we suggest that bovine lactoferrin may interfere with the antigen (HLF) binding or uptake.

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