

Enhancement of human natural killer cell activity by opioid peptides: Similar response to methionine-enkephalin and β -endorphin

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We studied the effect of methionine-enkephalin (MET) and β -endorphin upon human peripheral blood lymphocyte natural killer cell (NKC) activity in a group of healthy volunteers (n = 27; 17 male and 10 female, age \pm SD and range of 32 ± 6 , 25-43 years and 36 ± 11 , 22-65 years, respectively). Aliquots from some individual samples were preincubated separately with different concentrations of either peptide (n = 12), while others were tested with only one of these substances (MET, n = 6; β -endorphin, n = 9). Using each individual as its own control, MET (10^{-8} and 10^{-6} M) and β -endorphin (10^{-10} and 10^{-8} M) significantly increased NKC activity (NKCA) (at least 20% over base value, effector-to-target cell ratio, 40:1) in 7 out of 15 and 7 out of 19 subjects, respectively. Results obtained from the rest of the samples were mixed, e.g., changes observed in NKCA were not significant or showed significance with only one of the peptide concentrations studied. Cells from individuals showing a signif