Irinotecan Enhances IL-12 Production by OK-432-Activated Murine Macrophages

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Background: Our previous study showed that the combination of irinotecan (CPT-11) and OK-432 had an additive antitumor effect. The purpose of this study was to analyze the mechanism by which this combined treatment had an effect on immunity. *Materials and Methods:* To investigate the immune effects of murine splenocytes stimulated by SN-38 (the active form of CPT-11) and OK-432, endogenous interleukin (IL)-12 p70 production was assayed by ELISA and flow cytometry. *Results:* Endogenous IL-12 production was increased by SN-38 stimulation of cultures of OK-432-activated splenocytes from C57BL/6, C_3H, and Balb/c mice, which was not observed with LPS-activated splenocytes. IL-12 production by splenocytes was higher at an early stage after tumor inoculation. SN-38 and OK-432 stimulated IL-12 production in cultures of peritoneal exudate macrophages (PEM), and T cell cooperation was essential in cultured splenocytes. *Conclusions:* These results suggest that the interaction of SN-38 and OK-432 may support a type 1 T helper (Th1)-dominant state through increasing endogenous IL-12 production, mainly by macrophages.