Decreased expression and release of dipeptidyl peptidase IV (CD26) in cultured peripheral blood T lymphocytes of oral cancer patients

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ABSTRACT
To investigate the mechanism whereby serum dipeptidyl peptidase (DPP) IV activity in oral cancer patients is decreased, we examined the expression of cell surface DPP IV, also known as CD26, in cultured peripheral blood T lymphocytes of these patients and the amounts of DPP IV released into culture medium; values were compared with those found in healthy subjects. When peripheral blood T lymphocytes were cultured in the presence of phytohemagglutinin, concanavalin A and/or interleukin-2, the proliferative response and expression of CD26 (DPP IV) in their plasma membranes were greatly diminished in oral cancer patients as compared with those in healthy subjects. In addition, DPP IV activity in lymphocyte culture medium was reduced more in oral cancer patients than in healthy subjects, indicating decreased shedding of DPP IV from activated T lymphocytes in the patients. Based on these findings, it is suggested that suppression of DPP IV expression in peripheral blood T lymphocytes is one of the important factors involved in the mechanism of decrease of serum DPP IV activity in oral cancer patients.

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