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SPERMINE AND SPERMIDINE DECREASE THE FLUORESCENT INTENSITIES OF CD11a AND CD18 IN HUMAN PERIPHERAL BLOOD MONONUCLEAR CELLS (PBMCs), WHEREAS THEY INCREASE THAT OF CD62L

Y Kano, K Soda, K Kasono, M Kawakami, F Konishi.

1-847 Amanuma, Saitama-city, Saitama, Japan, 330-8503

Intracellular polyamine levels in immune cells are elevated in patients suffering from diseases with increased polyamine synthesis (e.g., cancer). Though the alterations of cellular immunity are often documented in these patients, little is known about the effects of the intracellular increases of polyamines on the expressions of membrane molecules. PBMCs from human volunteers were cultured in RPMI1640 supplemented with 10% human serum. PBMCs cultured either with spermine or spermidine, but not putrescine, selectively decreased the mean fluorescent intensities of CD11a and CD18. No membrane molecules other than CD11a and CD18 were suppressed, whereas the fluorescent intensity of CD62L was increased. The effect was induced by the intracellular increase of polyamines. The decreases of CD11a and CD18 were associated with the suppression of cellular functions related to LFA-1. The polyamines did not hinder the cell viability.

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