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Expression of Heat Shock Protein 70 in Human Endothelial Cells with Hemodynamic Shear Stress.

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The cellular immune reactions might be involved in the pathogenesis of atherosclerosis by the expression of heat shock protein (hsp) in endothelial cells. In this study, the expression of hsp70 and the polymerization of actin cytoskeleton of endothelial cells were investigated with the endothelial cell-extracellular matrix system. We developed the in situ laminar flow chamber apparatus that designed for the study of physiological response of anchorage-dependent endothelial cells. In contrast to the intranucleous expression of hsp70 with heat shock, perinuclear expression of hsp70 was detected with laser confocal microscope in endothelial cells exposed to 15 dyne/cm^2 shear stress for 1 hour. Consequently, polymerization of cytoplasmic actin cytoskeleton and the cytoplasmic expression of hsp70 may prevent the cellular damage from the mechano-pathophysiological stimulus that initiate the atherosclerosis.

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Extracellular Autolysins from *Moraxella* sp.

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Autolytic activity was recognized from the growth curve of *Moraxella* sp. in batch culture. During cultivation, extracellular autolytic activity was gradually increased from early logarithmic phase to stationary phase. Activity reached its maximum at the early stationary phase and sharply decreased from that time. Four extracellular autolysins, which molecular masses were 30, 32, 38 and 41 KDa, respectively, have been detected in renaturing SDS-PAGE gel which contained 0.2% heat-killed *Micrococcus luteus* cells as substrate. This bacterium seemed to contain glycosidase and N-acetylmuramyl-L-alanine amidase or endopeptidase. The autolysin(s) showed optimal condition of pH 6.0~8.0 and 40℃.