P09 Molecular interaction between short fibulins and elastic fiber

Ryo Sudo*、Ayaka Kasuga、Chihiro Hayakawa、Fumiaki Sato、Hiroshi Wachi

Hoshi University School of Pharmacy and Pharmaceutical Sciences, Department of Clinical Chemistry

[Purpose] Elastic fibers provide elasticity to elastic tissues such as arterial, lungs, skin and ligaments. It is known that loss of elasticity in these organs causes loose skin and pathological conditions such as aortic aneurysm, arteriosclerosis, and lung emphysema with aging. However, fibulin-4 and -5, which belong to short fibulins, play an important role for elastic fiber formation, role of other short fibulins in elastic fiber formation is not clear yet. Our purpose of this study was to understand molecular interaction between short fibulins, especially fibulin-3 and -7, and elastic fiber related proteins.

[Method] HA or V5-tagged fibulin-4, -5, -3 or -7 was transiently transfected into HEK293FT cells. The conditioned medium were immuno-precipitated with anti HA or V5 antibody. In addition, normal human skin fibroblast-neonatal (NHDF-neo) cells stably transfected with HA-tagged fibulin-7 was demonstrated immunofluorescence staining.

[Result] We confirmed that the analysis of a co-precipitated protein by Western blot assay shows the interaction between fibulin-4 and fibulin-7. Moreover, the analysis of immunofluorescence staining showed the co-localization of Elastin and fibulin-7.

[Discussion] Our results may suggest that fibulin-7 plays an important role for the super molecular formation of elastic fiber.