Urinary Titin N-fragment in disease prognosis of ALS

A group of researchers, headed by prof. Masahisa Katsuno, MD, PhD, at department of Neurology, Nagoya University Graduate School of Medicine (Nagoya, Japan) have conducted a study of amyotrophic lateral sclerosis (ALS) in which they enrolled 70 ALS patients and 43 healthy controls (HC) and assessed urinary Titin N-fragment, urinary neurotrophin receptor p75 extracellular domain (p75ECD), serum neurofilament light chain (NfL) and motor functions to evaluate their relevance as a marker of disease progression and prognosis of ALS.

As a result, they revealed that urinary Titin N-fragment levels normalised with Cr (titin/Cr) were significantly high in ALS patients (ALS, 27.2 pmol/mg/dL vs HC, 5.8 pmol/mg/dL; p<0.001) and associated with the scores of motor functions ALSFRS-R (r=−0.422, p<0.001) and patients with high Titin N-fragment showed poor prognosis.

For measurement of urinary Titin N-fragment level, #27900 Human Titin N-fragment Assay Kit – IBL is used in this report.

Titin (connectin) is a protein that consists of 34,350 amino-acid (3,816kDa) and specifically expresses in a cross-striated muscle. Titin has been known as the largest protein among of existing proteins in a living body. It has been researched in the field of muscular damages such as sports medicine, cardiac disease, NAFLD, sarcopenia and frailty etc.