Biol. Pharm. Bull. **22(9)**, 1007-1009 (1999)

Arginyl-tRNA-Protein Transferase Activities in Crude Supernatants of Rat Tissues

Koichi Takao (高尾 浩一) and Keijiro Samejima (鮫島 啓二郎)

A fluorescent HPLC method for the assay of arginyl-tRNA-protein transferase (R-Transferase) activity was applied to obtain quantitative data of the enzyme activity in rat tissues for the first time. In this assay, the major problem was a significant hydrolysis of the substrate, N-aspartyl-N'-dansylamido-1,4-butanediamine, and the product, N-arginylaspartyl-N'-dansylamido-1,4-butanediamine (ArgAsp(4)DNS) by aminopeptidases in crude samples such as 105000g supernatants (105S) of tissue homogenates. As bestatin inhibited the hydrolysis of ArgAsp(4)DNS, a standard-addition method in the presence of bestatin, using a partially purified R-Transferase preparation from hog kidney as a standard, made it possible to measure directly R-Transferase activities in 105S with a short incubation time and sufficient reliability. It was found by the established method that of 14 tissues examined, stomach was rich in the R-Transferase activity with the highest specific activity, suggesting a target tissue for the future studies on R-Transferase to elucidate its physiological significance.