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Prediction of structure and function of AstA and AstB

(¹Department of Biochemistry, University of Cambridge, ²Yamanouchi Co., Ltd.) Hiroki Shirai (1, 2), ○Kenji Mizukuchi (1)

Arginine succinyltransferase (AstA) and succinylarginine dihydrolase (AstB) catalyze the first two steps of arginine catabolism by the arginine succinyltransferase pathway (AST pathway), which is the major pathway of arginine catabolism in *Escherichia coli* including its pathogenic strains O157 and CFT073. By using FUGUE, a sequence/structure homology recognition tool, we found that these two enzymes each belong to existing superfamilies of proteins. These assignments shed light on the structures, catalytic mechanisms and evolution of diverse enzymes involved in arginine catabolism.