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*Analysis of Expression of Fructose Transporter GLUT5 in Rat Tissues with Regards to Reducing Obesity*

GLUT5 is a fructose transporter that is important in regulating fructose uptake into the body. The expression of GLUT5 in rat tissues was investigated in this study. Rats were fed normal chow and either 15% fructose water or normal tap water for one week. Tissues were collected and proteins were extracted by sonication. Western blots and immunohistochemistry were performed to analyze the expression of GLUT5. Results show that GLUT5 was expressed in tissues that either require great energy or absorb nutrients: ileum, kidney, pancreas, thoracic artery, brown adipose tissue, brain, heart, liver, spleen, eye, skeletal muscle, testis, and lymph. It was not expressed in the tissues that do not carry out these functions: duodenum, jejunum, large intestine, abdominal artery, renal artery, white adipose tissue, and lung; the exception being the jejunum. In some tissues of fructose fed rats, the expression of GLUT5 increased compared to control rats. For instance, liver GLUT5 was expressed 17.5 times more in the fructose-fed rats than the control rats ( $p < 0.0001$ ). Thus, it can be concluded that fructose consumption increases GLUT5 expression.