



Overexpression of the *A-FABP* gene facilitates intermuscular fat deposition in transgenic mice

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Genet. Mol. Res. 14 (1): 2742-2749 (2015)

Received December 3, 2014

Accepted March 16, 2015

Published March 31, 2015

DOI <http://dx.doi.org/10.4238/2015.March.31.4>

ABSTRACT. Adipocyte fatty acid-binding protein (A-FABP), the most abundant FABP in adipocytes, controls fatty acid uptake, transport, and metabolism in fat cells. We constructed a transgenic mice model that overexpressed the cattle *A-FABP* gene to investigate the relationship between A-FABP expression and intermuscular fat deposition. There was no significant difference in body weight and serum biochemical indexes between transgenic and wild-type mice. Further, there were no significant differences in intermuscular triglyceride content and A-FABP expression levels over three generations of transgenic mice. However, abdominal adipose rate, A-FABP protein content, and intermuscular triglyceride levels of transgenic mice were significantly higher than those of wild-type mice. In addition, triglycerides were remarkably higher in the skeletal muscle but lower in the myocardium of transgenic mice.

Thus, overexpression of cattle *A-FABP* gene promoted fat deposition in the skeletal muscle of transgenic mice.

Key words: Transgenic mice; Cattle A-FABP; Overexpression; Fat deposition