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[\[PDF \(697K\)\]](#) [\[References\]](#)**Release of Ferulic Acid from Wheat Bran by an Inducible Feruloyl Esterase from an Intestinal Bacterium *Lactobacillus acidophilus***[Xiaokun WANG^{1\)}](#), [Xin GENG^{1\)}](#), [Yukari EGASHIRA^{1\)}](#) and [Hiroo SANADA^{1\)}](#)*1) Laboratory of Food and Nutrition, Graduate School of Science and Technology, Chiba University*

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In the present study, the production of a novel feruloyl esterase (FAE) from a typical human intestinal bacterium *Lactobacillus acidophilus* using various carbon sources was investigated. The results showed that FAE activity was strongly induced by hemicellulosic substances, with the highest activity detected when de-starched wheat bran (DSWB) was used as a carbon source. Moreover, the production was stimulated by the monosaccharides xylose and arabinose, suggesting its particular secretion mechanism. With increasing levels of free ferulic acid (FA) added, the production of FAE increased, reached a peak and declined. Further, on addition of either xylanase or α -L-arabinofuranosidase, the amount of FA released from DSWB by the purified FAE from *L. acidophilus* increased from 0 to 12.4nmol and 3.64nmol, respectively. When the three enzymes existed together, 15.7nmol of FA was detected. These results indicated that xylanase is predominant and arabinofuranosidase subordinate in their synergistic effect on FA release by FAE.

Keywords: [Dietary ferulic acid](#), [Feruloyl esterase](#), [Xylanase](#), [Arabinofuranosidase](#), [Lactobacillus acidophilus](#)

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