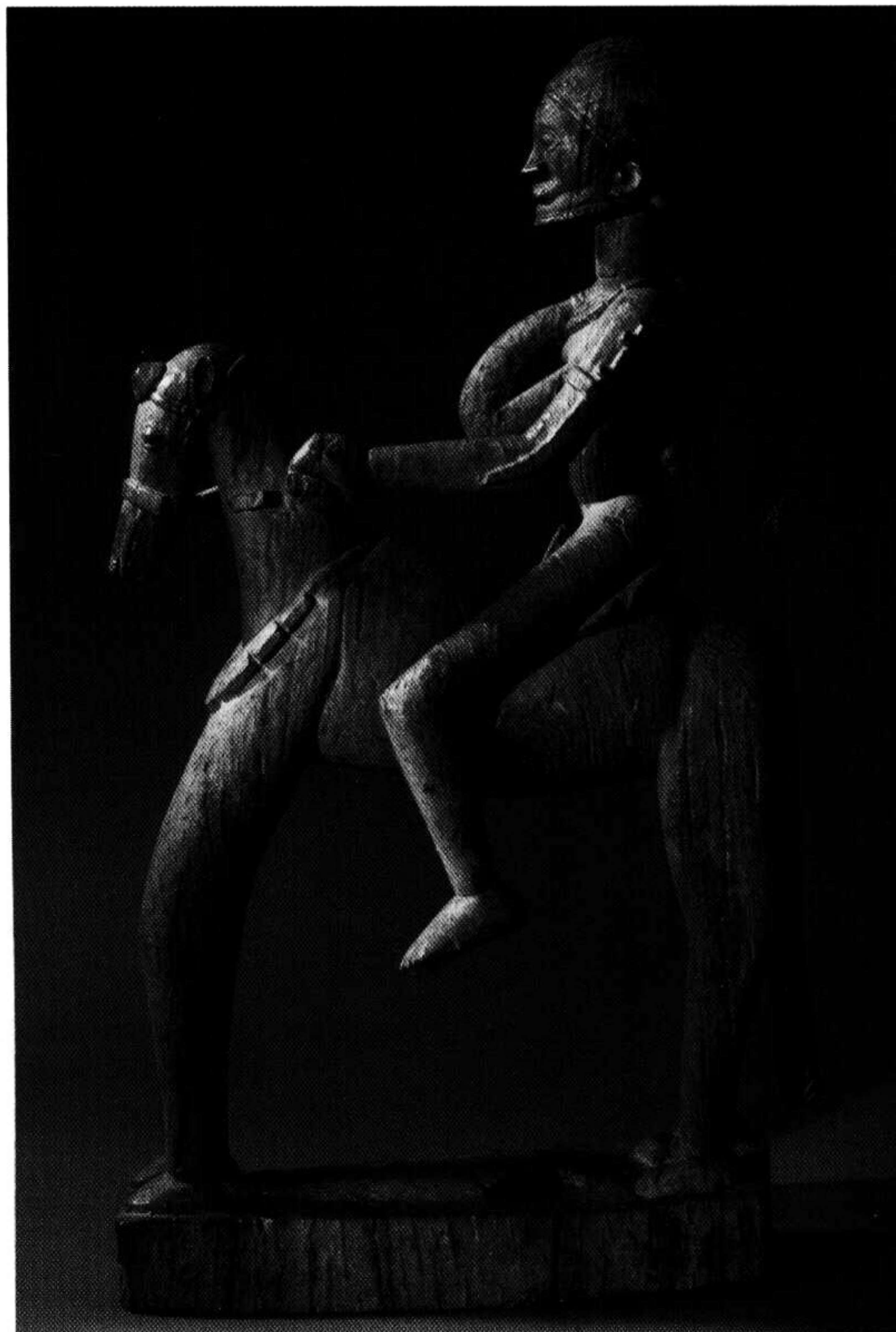




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**PHYSIOLOGICAL EFFECTS OF AN EXOPOLYSACCHARIDE PRODUCED BY *LACTOBACILLUS KEFIRANOFACIENS*.** H. Maeda,<sup>1</sup> X. Zhu,<sup>1</sup> S. Suzuki,<sup>2</sup> S. Kitamura<sup>2</sup>. <sup>1</sup>Research and Development Division, Daiwa Pharmaceutical Co., Ltd., Tokyo, Japan. <sup>2</sup>Graduate School of Agriculture and Biological Sciences, Osaka Prefecture University, Osaka, Japan.

*Lactobacillus kefiranofaciens* is known to produce an exopolysaccharide named kefiran. In the present study, we developed a new medium, rice hydrolyzate (RH) medium, for the culture of *L. kefiranofaciens*. The production of exopolysaccharide was examined in RH medium, modified MRS medium and skim milk medium, respectively. Compositional analysis, methylation analysis, specific rotation and <sup>1</sup>H and <sup>13</sup>C NMR spectroscopy revealed that the structures of exopolysaccharides from these three different media are essentially identical. The exopolysaccharide is composed of a hexasaccharide repeating unit and thus known as kefiran. The study on the effects of kefiran in animals demonstrated that kefiran significantly suppressed the increase of the blood pressure and reduced the serum cholesterol levels in SHRSP/Hos rats when subjects consumed excessive dietary cholesterol, and kefiran supplementation had a significant effect on lowering blood glucose in KKAY mice. Furthermore, the results of fecal moisture and wet weights of feces in constipated SD rats indicated that the administration of kefiran was effective for improving defecation. These results suggest that kefiran could be used as a functional food to prevent some nowadays very frequent diseases.