Kefir is a probiotic and fermented dairy product authentically produced from kefir grains. Kefir grain, as a natural starter culture, contains numerous lactic acid bacteria, acetic acid bacteria and yeasts within a polysaccharide structure. True kefir is a miraculous food in terms of its favorable contributions to human health. However, kefir starter cultures used in industrial kefir productions contain very few lactic acid bacteria and yeasts. These starter cultures do not contain characteristic kefir bacteria, such as Lactobacillus kefiranofaciens, Lactobacillus kefiri, and Lactobacillus parakefiri. The objective of this study was to compare the intestinal microorganisms of BALB/c mice fed kefir produced from natural kefir grains and kefir produced from starter culture. The mice in kefir groups were fed an oral dose of 0.3 mL kefir/day for 15 days, and the control group did not receive kefir. The feces were collected in metabolic cages, and the lactic acid bacteria, yeasts-fungi, and Lactobacillus acidophilus and Bifidobacterium species were determined. Additionally, PCR analysis based on yeast-fungus 23S rRNA was carried out, and serial analysis was performed with an ABI 3100 Genetic Analyzer.