**ABSTRACT**

Hyperuricemia and gout are metabolic diseases characterized with high serum urate and impact human health significantly. Although some drugs have been developed to treat gout, hyperuricemia represents a substantial health problem. Reducing purine absorption through intestinal microbiota, which can be managed through intake of probiotics, emerges as a promising way to reverse elevated serum urate. Probiotics have shown several benefits such as immune modulation and improvement of intestinal functions. Therefore, this review briefly summarizes purine metabolism and molecular mechanisms for hyperuricemia and gout with the focus on recent development on the use of probiotics to alleviate hyperuricemia and gout.