Abstract
Soon after birth, the human gastrointestinal tract quickly becomes colonised by a variety of bacterial species. Throughout life the gastrointestinal tract continues to serve as host to a complex society of nonpathological bacteria. Microorganisms, such as probiotics, have the potential to modulate mucosal immune response and reduce gastrointestinal inflammation caused by a variety of infectious and allergic events. The most widely studied genera of probiotics are lactobacilli and bifidobacteria. Lactobacillus rhamnosis strain ATC53103 (LGG) can replenish gut flora during infectious diarrhoeal episodes. This beneficial effect is carried over to traveller's diarrhoea and children experiencing antibiotic-associated diarrhoea. Furthermore, LGG can reduce the risk of respiratory tract infections in children attending daycares and hospitals. With allergic disease on the rise, probiotics have the potential to positively impact atopic dermatitis, asthma, and allergic rhinitis. LGG has been shown to decrease the severity and delay the onset of atopic dermatitis. Additionally, LGG is beneficial in the treatment of allergic colitis and necrotising enterocolitis. Some strains of probiotics appear to be useful in the treatment and/or prevention of allergic disease, however, caution must be used when generalising the effectiveness of a specific strain of organism to other organisms and other disease states.