

## **Abstract**

Preserving health at a higher age depends on the function of biological homeostatic systems (neural endocrine and immune activities), where the biological interaction between these systems and the intestinal microflora plays a key role. One of the most serious diseases associated with aging is Alzheimer's dementia (AD) and it is the most common cause of dementia in the world. This disease is accompanied by cognitive impairment associated with accumulation of amyloid plaques and neurofibrillary fibres in brain tissue. Naturally, biological changes occur during the process of aging, resulting in reduced functional capacity of the organism, accompanied by an increased risk of inflammatory processes involved in the etiology of several chronic, pathologies, including neurodegenerative processes. These modulatory processes are associated with oxidative stress and intestinal dysbiosis. It is already well documented in the scientific literature that significant changes in the composition of intestinal microbiota occur in aging. These changes can lead to several biological changes, including increased permeability of the intestinal barrier, thereby causing the increased penetration of many biologically active substances into the body. This may be a risk factor for the development of inflammation in both brain tissue and even the risk of developing neurodegeneration. Thus, modification of the intestinal microbiota may have positive therapeutic effects on AD pathogenesis.