Ageing is the major biomedical challenge of our society, considered as a progressive and irreversible set of structural and functional changes for a living organism, in relation with both genes and environmental factors. The percentage of elderly people and the incidence of age-related diseases such as cardio-vascular diseases, cancer and neurodegenerative diseases are main concerns for many scientists worldwide.

Discovering the biological basis of ageing is one of the greatest remaining challenges for science. Findings from model organisms have revealed that ageing is a surprisingly modifiable process that can be manipulated by both genetic and environmental factors.

One well-studied dietary manipulation of ageing is caloric restriction, which consists of restricting the food intake of organisms without triggering malnutrition and has been shown to retard ageing in model organisms. Ageing is intrinsically complex, being driven by multiple causal mechanisms. Each mechanism tends to be partially supported by data indicating that it has a role in the overall cellular and molecular pathways underlying the ageing process.

Pharmacological intervention to decelerate ageing and age-related diseases is highly attractive because it would target all the population during many years. If successful, healthy ageing therapy will be more efficient in reducing mortality than to fight separately each age-related disease. Research on healthy ageing interventions has evolved along the main theories of ageing.

Caloric restriction is already being used as a paradigm for developing compounds that mimic its life-extension effects and might therefore have therapeutic value. The potential for further advances in this field is immense: hundreds of genes in several pathways have recently emerged as regulators of ageing and caloric restriction in model organisms. Some of these genes, such as IGF1R and FOXO3, have also been associated with human longevity in genetic association studies. The parallel emergence of network approaches offers prospects to develop multitarget drugs and combinatorial therapies. Understanding how the environment modulates ageing-related genes may lead to human applications and disease therapies through diet, lifestyle, or pharmacological interventions. Unlocking the capacity to manipulate human ageing would result in unprecedented health benefits. Currently, health is understood as the removal of diseases in a defensive manner to the pathological process and with higher costs. Would be more effective the maintenance of health through prevention mechanisms identified by modern science. The study of the mechanisms by which various natural or health factors can influence the ageing process positively or negatively opens the path to design and obtain new products for the benefit of elderly people to maintain health for a long time and enabling a socially active role.
Combining the balneotherapy with using healthy-ageing products, provides a significant advantage and represents the sustainability of the research in the context of which spas are the ideal place for the application of new treatments. Peloids and plants, used in balneotherapy, in the treatment of various rheumatic, endocrine, dermatological or gynecological diseases, because of many biological, biochemical, physical, chemical and physico-chemical actions that have in the body - represent the support for the design of new geroprotectives.

**Keywords:** Peloid, Plant extracts, Geroprotectors, Biomarker, Healthy ageing