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BOOK OF ABSTRACTS



Effective current approaches
in anti-aging medicine
and gerontology

Wide application of peptide bioregulators contribute to the maintenance or even improvement of the visual function of the patients with retinal degenerative disease, improving their quality of life, making them functional and with a positive impact on social and financial indicators.

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SHORT PEPTIDES AND THEIR EFFECTS ON AGEING IN ORAL DERIVED STEM CELLS

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Relevance: Mesenchymal stem cell is a highly promising alternative strategy for tissue regeneration. However, aging progressively decreases the proliferative and differentiation potential of MSCs and diminishes their regenerative capacity, which represents a limiting factor for their endogenous use in patients [1].

The short peptides play a key role in the concepts of the gene control of protein synthesis, in the transmission of biological information and in the modulation of the transcription related to the aging and differentiation process [2].

The aim of the present study was the evaluation of the effect in terms of aging and osteogenic differentiation process of Cartalax, Vesugen, Vilon and Epitalon on different type of cells derived from oral cavity.

Methods: Primary Osteoblasts derived from human periostium (OBs), Periodontal Ligament Stem Cells derived from human periodontium (hPDLSCs) and Gingival Stem Cells derived from human gingival tissue (GMSCs) have been used to study the peptides biological effects in terms of ageing and osteogenic differentiation. Morphological and biochemical analyses were used to evaluate the modulation of intracellular regulators of the transcription factor related to aging, as p21 and to osteogenic differentiation as RUNX2 and COL1A.

Results: P21 showed a decrease expression in treated samples with Cartalax, Vesugen, Vilon and Epitalon showing an anti-aging effect. RUNX2 and COL1A showed a high expression in treated samples when compared to the untreated showing a role in the enhancement of differentiation.

Conclusion: The application in vitro of the studied peptides could represent a promising tool for preventive purpose in the ageing process and to led the knowledge significantly in the physiological functions as a bioregulators of cell differentiation.

Reference list:

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