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Poster Presntation

Role of the opioids in stem cells biology

Alice Colescu
University of Medicine and Phaymacy "Gr.T.Popa", Lasi, Romania

Opioids have been used for sedation and pain management for many millennia and are regarded as the earliest medications known to humans. Enkephalins, dynorphins, endorphins, and nociceptin/orphanin FQ are the four groups into which endogenous opioid peptides are currently subdivided. The opioid receptors (ORs), transmembrane proteins that are expressed throughout the body and are members of the superfamily of G-protein-coupled receptors, mediate their effects; these receptors include the opioid receptor (DOR), opioid receptor (MOR), opioid receptor (KOR), and nociceptin/orphanin FQ receptor (NOP). Endogenous opioids are mostly studied in relation to the central nervous system (CNS), although their function in other organs has also been examined in both healthy and pathological contexts. Since these cells are a subject of intense scientific interest due to their unusual characteristics and their involvement in cell-based therapies in regenerative medicine, we here review their function in stem cell (SC) biology. The potential of endogenous opioids to control SC proliferation, stress response (to hunger, oxidative stress, or damage after ischemia-reperfusion), and differentiation towards various lineages, such as neurogenesis, vasculogenesis, and cardiogenesis, is the subject of our study.

Biography: Alice Colescu is a 4th-year medical student in Iasi, Romania. She is part of the HPHR team and is also a fellow research assistant at Humanitas University, Milan. Her motto: Always have high hopes. Dreams can come true if you dare to pursue them

colescu_alice2000@yahoo.com

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