

A SHORT EDITORIAL VIEW ON THE RELEVANCE OF EXOSOMES IN SOME NEUROPSYCHIATRIC MANIFESTATIONS - MODEL STUDIES

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Abstract. Exosomes are a class of extracellular vesicles derived from cells of endosomal origin and typically have a diameter between 40 to 100 nm, being the smallest type of extracellular vesicle. Although in recent years, the use of exosomes in experimental studies has increased, currently there are few studies that have as a research subject the neurobehavioral changes that exosomes have on model organisms. For this reason, our group is further looking to develop and apply the methodology regarding the neurobehavioral changes that exosomes have on zebrafish (*Danio rerio*). Thus, we present here a short editorial view on the relevance of exosomes in some neuropsychiatric manifestations-models studies, as well as some of our future plans in this new area of research.

Keywords: exosomes, neuropsychiatric , zebrafish studies.

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Introduction

Exosomes are a class of extracellular vesicles derived from cells of endosomal origin and typically have a diameter between 40 to 100 nm, being the smallest type of extracellular vesicle (Edgar, 2016; Koga et al., 2005). They have a lipid bilayer, being released into the extracellular environment containing a complex cargo of contents derived from the original cell, including proteins, lipids, messenger ribonucleic acid (mRNA), micro ribonucleic acid (miRNA), and deoxyribonucleic acid (DNA) (Carretero-González et al., 2018; Melo et al., 2014).

In the nervous system, exosomes play a role in intercellular communication, maintain the myelin sheath and remove waste. Similarly, exosomes found in the brain may play a role in CNS diseases, the most common being: Alzheimer's disease (AD) and Parkinson's disease (Liu et al., 2019).