

5<sup>th</sup> International Conference on **Spine and Spinal Disorders**  
&  
15<sup>th</sup> International Conference and Exhibition on  
**Alzheimers Disease, Dementia & Ageing**

April 22-23, 2019 Rome, Italy

**Neuroinflammation modulation through A2A adenosine receptor antagonists**

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Neuroinflammation is one of the most common aspects among the neurodegenerative diseases. Several pathological conditions are correlated with neuroinflammation as amyotrophic lateral sclerosis, multiple sclerosis, traumatic brain injury, stroke, parkinson's disease and alzheimer's disease (AD), that it is not only provoked by neurofibrillary tangles and  $\beta$ -amyloid peptides. This pathological condition leads to a deregulation of microglia and astrocytes, an aberrant synthesis of proinflammatory cytokines (CK) and an increase of reactive oxygen and nitrogen species (ROS and RNS). In the last years, the adenosine A2A adenosine receptors (A2A AR) are emerging as an attractive therapeutic target for neuroinflammation modulation. It has also been demonstrated the overexpression of A2A adenosine receptors (A2A AR) in microglia of AD patients, suggesting that A2AAR antagonism could lead to beneficial effects. In this study, a new series of purine derivatives, potential A2A AR antagonists, substituted at 2, N6, 8, or 9 positions were investigated through binding assay. The most active and selective compounds (6, 7 and 16) had shown promising results in viability assays and notable antioxidant effects, attributes that make these compounds attractive candidates for several pathologies like AD.

**Biography**

Martí Navia A obtained his Bachelor's Degree in Biochemistry and Molecular Biology at Rovira i Virgili University, Spain in 2014. He developed the Bachelor thesis in Montpellier, France about the structural characterization of  $\beta$ 2-AR C-terminal by NMR. In 2015 he performed a Masters in Mental Health: Research in Psychiatry, Psychopharmacology and Neuro Toxicology at the same university, winning the Special Award of Best Academic Record. He defended his Master Thesis about the neuroprotective effects of leptin and its anti-inflammatories roles. Since 2017, he enrolled in PhD Course in Chemical and Pharmaceutical Sciences at University of Camerino, Italy .

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