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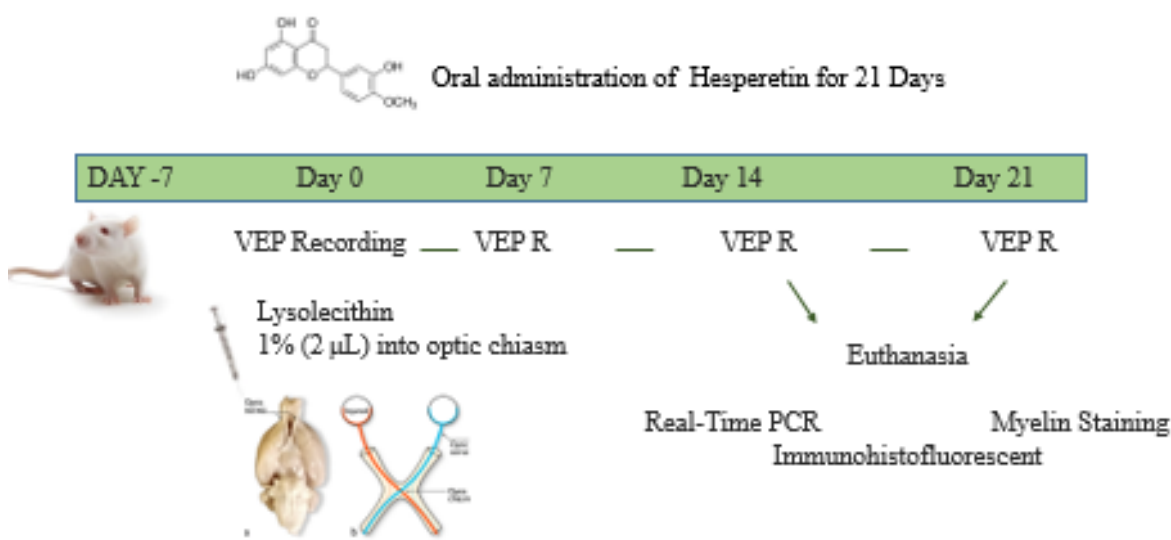
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## Introduction

Multiple sclerosis (MS) is regarded as one of the most prevalent autoimmune disorders. Visual impairment has been considered as the most common primary symptoms in MS patients. Hesperetin (Hst), is one of the flavonoids from citrus species that possesses various biological properties such as antioxidant and anti-inflammatory properties. The aim of the present study was evaluate the effect of oral administration of Hesperetin on astrocytes activation and endogenous remyelination of optic pathway in lysolecithin (LPC)-induced demyelination model.

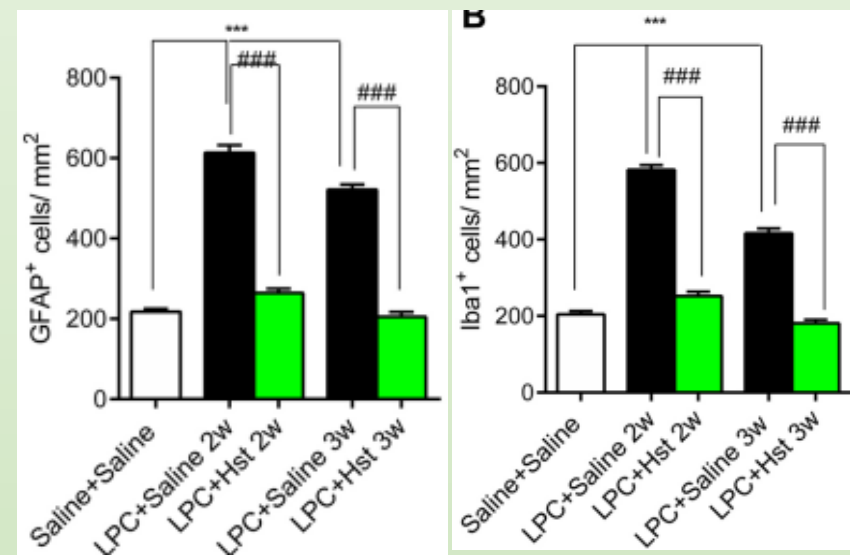
## Materials and Methods



-Animal were divided to six Groups for 14 or 21 days:

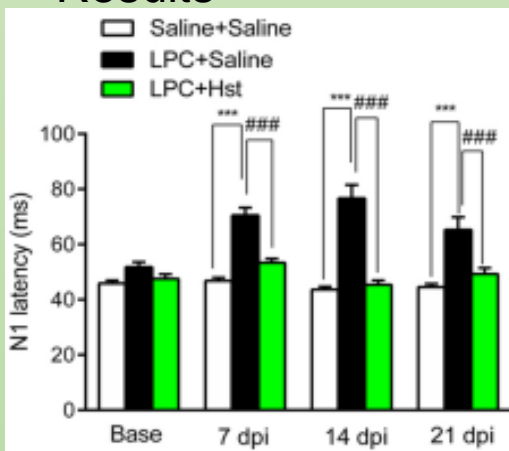
- 2 Groups: Vehicle Control+ Saline
- 2 Groups: LPC Control+ Saline
- 2 Groups: LPC +Hesperetin

-Hesperetin at dose of 20 mg/Kg  
-Immunosating against GFAP/Iba1  
-FluroMyein Staining  
-Real-Time PCR to MBP/Olig2 expression



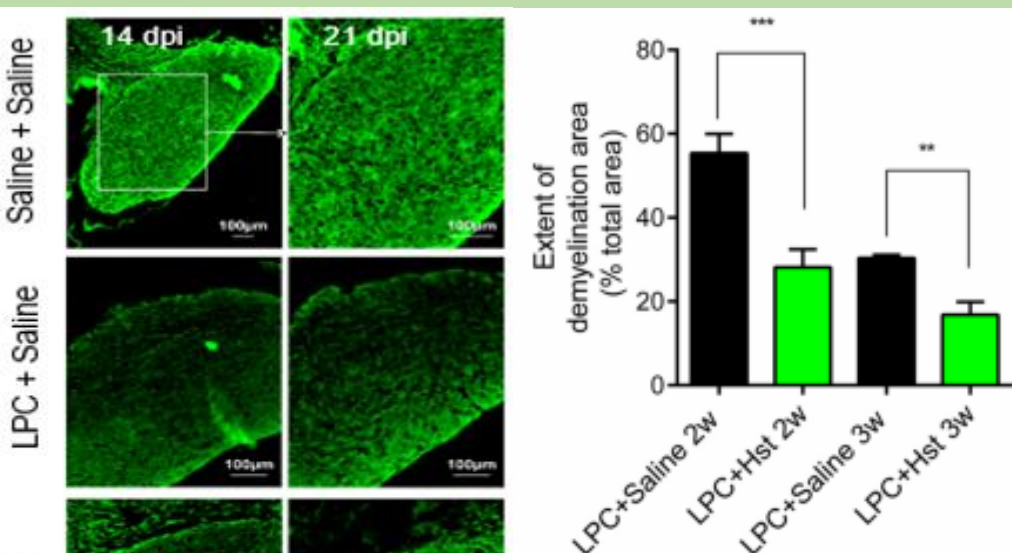
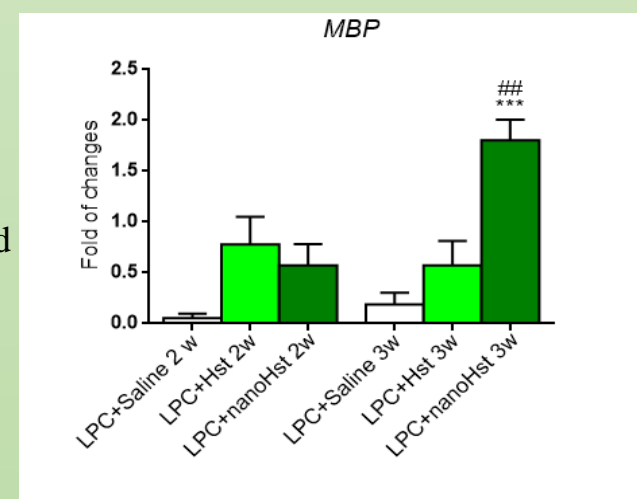
**Fig.3** GFAP/Iba1 -Hesperetin ameliorate glial activation in LPC-induced demyelination model

## Results



**Fig.1** VEPs recording from the occipital cortex in Rats, the latency between flash LED and first positive wave was used to analysis of VEP experiment

**Fig.4** Hesperetin enhanced MBP(Myelin Basic protein) gene expression in LPC receiving animals



**Fig.2** Demyelination areas significantly reduced by Hesperetin treatment

## Conclusions

The In-Vivo study suggests that Hesperetin administration could enhance the myelination process and expression of gene markers MBP/ Olig2 as well as ameliorate the glial activation in the optic chiasm. It seems that Hesperetin has a potential neuroprotective activity and promises a therapeutic value in neuropathological conditions including MS.

## References:

- [1]. Danyal Daneshdoust, Mohsen Khalili-Fomeshi, Maryam Ghasemi-Kasman, "Pregabalin enhances myelin repair and attenuates glial activation in lysolecithin-induced demyelination model of rat optic chiasm". *Neurosciences J*, 344, 2016:148-156.
- [2]. Robin J. M. Franklin, Charles ffrench-Constant : "Remyelination in the CNS: from biology to therapy" *Nature Reviews Neuroscience*, 9, 11, 2008, 839-855