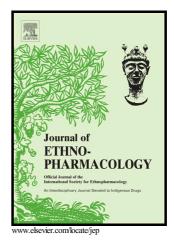
### Author's Accepted Manuscript

*Ephedra gerardiana* aqueous ethanolic extract and fractions attenuate Freund Complete Adjuvant induced arthritis in Sprague Dawley rats by downregulating PGE2, COX2, IL-1 $\beta$ , IL-6, TNF- $\alpha$ , NF-kB and upregulating IL-4 and IL-10



Ambreen Malik Uttra, Alamgeer, Muhammad Shahzad, Arham Shabbir, Shah Jahan

# PII:S0378-8741(17)34684-6DOI:https://doi.org/10.1016/j.jep.2018.06.018Reference:JEP11407

To appear in: Journal of Ethnopharmacology

Received date: 25 December 2017 Revised date: 1 June 2018 Accepted date: 14 June 2018

Cite this article as: Ambreen Malik Uttra, Alamgeer, Muhammad Shahzad, Arham Shabbir and Shah Jahan, *Ephedra gerardiana* aqueous ethanolic extract and fractions attenuate Freund Complete Adjuvant induced arthritis in Sprague Dawley rats by downregulating PGE2, COX2, IL-1 $\beta$ , IL-6, TNF- $\alpha$ , NF-kB and upregulating IL-4 and IL-10, *Journal of Ethnopharmacology*, https://doi.org/10.1016/j.jep.2018.06.018

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

#### **ACCEPTED MANUSCRIPT**

#### *Ephedra gerardiana* aqueous ethanolic extract and fractions attenuate Freund Complete Adjuvant induced arthritis in Sprague Dawley rats by downregulating PGE2, COX2, IL-1β, IL-6, TNF-α, NF-kB and upregulating IL-4 and IL-10.

Ambreen Malik Uttra<sup>1</sup>, Alamgeer<sup>1\*</sup>, Muhammad Shahzad<sup>2</sup>, Arham Shabbir<sup>3</sup>, Shah Jahan<sup>4</sup>

<sup>1</sup>Laboratory of Cardiovascular Research and Integrative Pharmacology, Department of Pharmacology, College of Pharmacy, University of Sargodha, Sargodha 40100, Pakistan

<sup>2</sup>Department of Pharmacology, University of Health Sciences, Lahore 54600, Pakistan

<sup>3</sup>Department of Immunology, University of Health Sciences, Lahore 54600, Pakistan

<sup>4</sup>Department of Pharmacy, The University of Lahore-Gujrat Campus, Gujrat 50700, Pakistan

alam\_yuchi@yahoo.com alamgeer@uos.edu.pk

, south of the second s \*Corresponding author. Alamgeer; Tel; +923437547785

Download English Version:

## https://daneshyari.com/en/article/8532194

Download Persian Version:

https://daneshyari.com/article/8532194

Daneshyari.com