

## *In vitro* inhibition of TNF- $\alpha$ release by *Selaginella bryopteris* on RAW 264.7 macrophage

Udai Chand Agrahari

National Institute of Pharmaceutical Education and Research, India

Inflammation is one of the important causes, which is responsible for many diseases like cancer, rheumatoid arthritis, multiple sclerosis, diabetes, etc. Pro-inflammatory cytokines (TNF- $\alpha$ , IFN- $\gamma$  and IL-1 $\beta$  etc.) and NO are considered as pivotal mediators in inflammatory conditions like rheumatoid arthritis, Crohn's disease, etc. Thus, inhibition of pro-inflammatory cytokines and NO production are important targets for treatment of inflammatory disorders. On the basis of their reported anti-inflammatory activity several plants were selected and their respective extracts (*n*-Hexane, DCM, EtOAc and MeOH extracts) were subjected for primary screening against pro-inflammatory mediators like TNF- $\alpha$ , IL-1 $\beta$  and NO, done for the above mentioned activity in RAW 264.7 cell line. Among these tested extracts, the EtOAc extract of whole plants of *Selaginella bryopteris* were found to have maximum inhibitory activity against TNF- $\alpha$  release. To identify the constituents responsible for the shown activity, further phytochemical investigation is carried out which showed the presence of five biflavonoid (namely amentoflavone, hinokiflavone, heveaflavone, bilobetin, and *sequoiaflavone*) and *apigenin*, luteolin and caffeic acid. Phytochemical investigation of the EtOAc extracts of whole plants of *Selaginella bryopteris* and their *in vitro* screening will be discussed in the poster.

**Keywords:** Pro-inflammatory cytokines, TNF- $\alpha$ , IL-1 $\beta$ , and NO

### Biography

Udai Chand Agrahari completed his B. Pharm from UPTU Lucknow in 2006 and earned M.S. (Pharm) in Natural Products from NIPER SAS Nagar, Punjab, India in 2008. Currently, he is pursuing Ph.D. in Natural Products from NIPER SAS Nagar Punjab, India. He also served as assistant Professor in LPU Phagwara during 2008-2009. He has published one international paper in natural product research.

udaipharma111@gmail.com