Abstracts

**SUN-349**

An in vitro study on the risk of non-allergic type-I like hypersensitivity to *Momordica charantia*  
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**Background:** *Momordica charantia* (MC) is a tropical plant that is extensively used in folk medicine. However, the knowledge about side effects of this plant is relatively little according to knowledge about its therapeutic effects. The aim of this study is to reveal the effects of non-allergic type-I like hypersensitivity to MC by an experiment which was designed in vitro.

**Methods:** In the present study, the expression of CD63 and CD205 on peripheral blood basophils against different dilutions of MC extracts was measured using flow cytometry and compared with one another. In addition to this, intrassay CV's of testing extracts were calculated for precision on reproducibility of test results.

**Results:** It was observed that the fruit extract of MC at 1.100 and 1,000 dilutions significantly increased active basophils compared to same extract at 1.0000 dilution.

**Conclusion:** In conclusion, *Momordica charantia* may elicit a non-allergic type-I like hypersensitivity reaction in especially susceptible individuals.

**Keywords:** None.

**SUN-350**

Toxic molecular mechanisms induced by magnetite nanoparticles in human pulmonary fibroblasts  
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The control of biomolecules-nanoparticles interaction from molecular to cellular levels is crucial for potential risks of adverse effects on human health.

The aim of our study was to investigate the molecular mechanisms involved in the inflammatory and cell death processes in human pulmonary fibroblasts (MRC-5 cell line) after magnetite nanoparticles (MNP) exposure.

In order to accomplish these, MRC-5 cells were exposed to 12.5 µg/mL MNP for 24, 48, and 72 hours. As inflammatory markers, the level of prostaglandin-E2 (PGE2), nitric oxide (NO) and the production of interleukin (IL)-6 and -8 were assessed using biochemical analyses. MNP potential to induce cell death in MRC-5 cells was evaluated by quantifying caspases activity and apoptotic cells through Annexin V PI staining.

Results have shown a significant stimulation of NO and PGE2 synthesis after 72 hours by 81% and 82% respectively, compared to control. A slight increase in IL-6 production occurred starting after 48 hours but no significant changes were observed in IL-8 levels. MNP caused no apoptotic events in pulmonary fibroblasts during the analyzed period but an increase of the caspase-1 activ

**Keywords:** Toxigenicogenic, Capparis ovata, multiple sclerosis.

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Transcription factor hypoxia-inducible factor (HIF)-1alpha is relevant for necrosis of *Mycobacterium avium*-induced granulomas  
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Mycobacterial infections are characterized by the formation of granulomas. Granulomas are well-organized aggregates of immune cells, namely infected macrophages. The granuloma's main function is to constrain and prevent dissemination of the mycobacteria while concentrating the immune response to a limited area. In some cases these granulomas undergo central necro
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Variation within the CASP3 gene and the risk of Achilles teninopathy in a British case-control cohort

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Achilles tendon pathology (ATP) is a degenerative condition with known genetic risk factors. Excessive tissue apoptosis has been observed in tendinopathy and components of the apoptosis pathway have previously been implicated in the aetiology of ATP. Caspases play a key role in the execution and regulation of apoptosis, with caspase-3 being an important mediator of apoptosis. Our aim was to determine whether a single nucleotide polymorphism (SNP) within the CASP3 gene (rs1049253) was associated with ATP in a British cohort. We recruited 264 (133 ATP cases and 131 asymptomatic controls) British Caucasian participants for this genetic association study. ATP cases were clinically diagnosed with insertional tendinopathy, noninsertional tendinopathy, Achilles tendon rupture, or more than one pathology. TaqMan assay technology was used to genotype all participants using real-time PCR. A Pearson's chi-squared ($\chi^2$) test was used to analyse for differences in genotype and allele frequency for the rs1049253 variant. We compared the collective ATP group against controls. We also conducted several sub-analyses taking into account the different types of tendinopathy. We found no significant difference in genotype ($p=0.643$) or allele ($p=0.635$) frequencies between the ATP group and controls. However, we did find a tentative genotypic association ($p=0.025$) between male insertional tendinopathy cases and male controls. These data must be viewed with caution due to the relatively small sample size and replication in a larger cohort would be necessary to increase confidence. In conclusion, our preliminary data infer a possible role for the rs1049253 variant as a risk factor for insertional tendinopathy in British males. These results could further implicate the involvement of the apoptosis pathway in the development of ATP.

References

Keywords: Apoptosis, Caspase-3, Tendinopathy.

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