

5th European Nutrition and Dietetics Conference

June 16-18, 2016 Rome, Italy

***Moringa Oleifera* Lam, aqueous extract: Different effects on proliferation, apoptosis and immunomodulatory activity in lympho-monocytoid tumor cells and PBMCs from healthy donors**

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The *Moringa oleifera* Lam (MO) is one of the widely distributed species in the family Moringaceae used in African traditional medicine. Different study shown anti-inflammatory, immune-stimulatory and pro-apoptotic activities of MO leaf extract. The MO pro-apoptotic and immune-modulatory effect could be attributed to immunogenic cell death (ICD) signal with release of damage associated molecular patterns (DAMPs) and immune response stimulation. Considering the limited data available regarding MO mature seeds we have evaluated in tumor cells and PBMCs from healthy donor (HD PBMCs), the anti-proliferative and pro-apoptotic effects of different MO aqueous extracts. We investigated the possible role of MO mature seeds extract treatment in the ICD associated DAMPs production and in CD4+ T cells activation and differentiation. Our results demonstrate an anti-proliferative and pro-apoptotic effect mediated by MO mature seeds aqueous extract on tumor cells but not HD PBMCs. In particular MO induced apoptosis in human cancer cell lines resulted associated to BCL2 down-modulation and HMGB1, HSP70 release. The MO treatment determines a different effect on activation (CD69, CD25) and differentiation (CD45RA, CCR7) of PBMCs respect to Jurkat cell line. Moreover we observe in PBMCs treated with a chemotherapeutic (cyclophosphamide) an immune restore of CD3+CD4+ subtype after MO treatment. In conclusion the MO mature seeds aqueous extract is able to regulate the proliferation, the apoptosis and immune response in a different way in healthy cells respect to cancer cells. The capacity of MO to inducer of ICD hallmarks highlighted the possibility use of MO mature seeds extract as adjuvant in traditional cancer therapy.

Biography

Marina Potesta is currently a PhD student in Immunology and Applied biotechnology at the University of Rome Tor Vergata. She has contributed to several research projects concerning studies on multiparametric techniques of cellular analysis for the evaluation of cytotoxic antitumoral and antiviral effect and immunological modification of vegetal extract during the treatment *in vitro*, especially studying the mechanism of apoptosis in lymphoid cell, hepatic cancer cells and HIV infected cells. She has published 7 scientific papers in national and international journals and 11 extracts from national and international scientific meetings document her experience.

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