



IR021

07 Immunoregulation (IR)

EFFECTS OF AN ENRICHED CONJUGATED LINOLEIC ACID (CLA) BUTTER ON IMMUNE RESPONSE TO OVALBUMIN

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Introduction: Conjugated linoleic acid (CLA) is a group of positional and geometric isomers of linoleic acid. Dairy products are the most important sources of CLA in human diet, with cis-9, trans-11 CLA being the main CLA isomer found in milk fat (75-90% of total CLA). Based on animal and in vitro studies, CLA have been reported to provide several health benefits, including anti-cancer, anti-atherosclerosis, alteration of body composition and regulation of diabetes and immune function. The understanding of the mechanisms by which CLA improves immune function could contribute to the development of nutritionally-based therapeutic applications to augment host resistance against infectious diseases and treat immune imbalances. **Objectives:** The aim of this study was to evaluate the effect of an enriched cis-9, trans-11 CLA butter on cellular and humoral immune response to ovalbumin (OVA). **Methods:** Butter rich in cis-9, trans-11 CLA isomer was obtained from milk of dairy cows fed diet supplemented with 4.5% of soybean oil. BALB/c mice were assigned to four treatment groups: T1) Commercial ration diet, non-immunized, challenged with OVA; T2) Commercial ration diet, immunized and challenged with OVA; T3) Low CLA butter diet, immunized and challenged with OVA; and T4) High CLA butter diet, immunized and challenged with OVA. The experimental period lasted 30 days. After this period, mice were subjected to the reaction of delayed-type hypersensitivity (DTH) to ovalbumin. DTH reaction was measured 24 hours after challenge. The serum levels of IgG2a and IgG1 were also evaluated. **Results:** T4 group diet reduced DTH reaction (40.3±4.1 vs. 10.0±2.8) when compared to T2 group. Serum levels of IgG1 increased in response to both T3 group diet (0.7±0.1 vs. 1.2±0.1) and T4 group diet (0.7±0.1 vs. 1.3±0.1) whereas IgG2a serum levels were reduced in both groups (0.36±0.01 vs. 0.03±0.01 and 0.36±0.01 vs. 0.02 ±0.002 for T3 and T4, respectively) when compared to T2 group. **Conclusion:** These results suggest that a high cis-9, trans-11 CLA butter could modulate the cellular and humoral immune response to ovalbumin in mice. The mechanisms underlying the immune response to CLA are not fully understood and deserve further investigation. **Financial support:** CNPq, CAPES and FAPEMIG.



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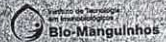
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