



## Propolis modulates nitric oxide pathway during celiac disease

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### Abstract:

Celiac Disease (CeD) is a chronic immune-mediated enteropathy, in which dietary gluten induces an inflammatory reaction, predominantly in the duodenum. Gluten peptides lead to an oxidative stress marked by nitric oxide (NO) production through inducible nitric oxide synthase (iNOS) induction in enterocytes. Propolis is a resinous material collected by bees from bud and exudates of the plants, which is transformed in the presence of bee enzymes. Propolis is known for its biological and pharmacological properties, such as immunomodulatory, anti-tumoral, anti-microbial, anti-inflammatory and antioxidant activities. We aimed in the current study to assess the effect of ethanolic extract of propolis (EEP) on nitric oxide pathway (both NO production and iNOS expression) using PBMCs from Algerian CeD patients. Our results show evidence that EEP significantly downregulates the expression of iNOS and NF- $\kappa$ B along with a substantial decrease in NO and IFN- $\gamma$  amounts found in culture supernatants of PBMCs. These results indicate that propolis is a potent regulator of NO pathway during CeD, and could be a possible dietary supplement used complementary to the gluten free diet.

### Biography:

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### Recent Publications:

1. Oussama MEDJEBER. IFN- $\gamma$  and TNF- $\alpha$  are involved during Alzheimer disease progression and correlate with nitric oxide production: a study in Algerian patients
2. Oussama MEDJEBER. IL-23/IL-17A axis correlates with the nitric oxide pathway in inflammatory bowel disease: immunomodulatory effect of retinoic acid



3. Oussama MEDJEBER. Interferon- $\gamma$  and nitric oxide production during Behçet uveitis: immunomodulatory effect of interleukin-10
4. Oussama MEDJEBER. Mucosal intestinal alteration in experimental colitis correlates with nitric oxide production by peritoneal macrophages: effect of probiotics and prebiotics
5. Oussama MEDJEBER. Involvement of interferon- $\gamma$  in bowel disease pathogenesis by nitric oxide pathway: a study in Algerian patients

[Webinar on Digestive Disease; December 08, 2020](#)

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