

Gastroprotective Activities of *Buddleja scordioides*-Role of Polyphenols against Inflammation

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Department of Chemistry and Biochemistry Ings, UPIDET, Durango, Mexico

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íGíFííFííJHíLáÖÉ { æíKí agallegos@itdurango.edu.mx

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reactive species are molecules that reactivate and attack regularly to the body through redox reactions and are carried out as a normal part of metabolic oxidative pathology. are multiple sources for ROS generation, especially mitochondrial respiration, activation of polymorphonuclear leukocytes, arachidonic acid metabolism, catalysis by the release of iron and copper and enzymatic action.

ROS can be manifested itself in ways damage can be shown as peroxidation chains of unsaturated lipids, DNA (base it breaks one strand, crosslinked protein-DNA), loss of carbonylationn in proteins, causing the enzyme activity to be lost [40].

Oxidative stress and process activates immune cells as a defense system [41-43]. is due to cells produce some arachidonic acid metabolites, citokines and citocines causing recruitment of immune cells directing them towards damage site, producing more reactive species because it is the way to attack the cells of the immune system [23]. In gastrointestinal pathologies, once the gastric mucosa is degraded and the of immune cells is present, these cells begin an uncontrolled production of reactive oxygen species, which result in an unrestrained enhancement of the oxidative stress status.

Once oxidative stress promotes the process, signaling cascades that favor an increase in these processes are activated by transcriptional factors such nuclear factor k-B (NFK). undergoes translocation from cytoplasm to the nucleus in response to an extracellular signal. translocation induces its ability to bind to DNA, leading to transcriptional up-regulation of the expression of many genes related to and immunity. NFK seems to be involved in development and aggravation of many diseases as gastrointestinal. process requires a signal derived from ROS, TNF , IL-1 , IL-6 which enhances the activation of NFK [35-37].

Antioxidants as disease regulators

An antioxidant is any substance that when present at low concentrations compared to an oxidizable substrate delay or inhibit oxidation of that substrate [44]. are several lines of defense in the body, of which protection against formation of reactive oxygen species (ROS) is the best. However, when performed ROS in the body, substances that can be used to improve the oxidative state.

When the balance between prooxidant and antioxidant in the human body has lost uncontrolled production of free radicals, causing antioxidant defenses to be inadequate, generating an increase of oxidative stress causing cellular damage that can lead to death [45].

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many degenerative diseases [55,56]. Recent studies have revealed that many of these diseases are related to oxidative stress from reactive oxygen and nitrogen species

polyphenols product of their secondary metabolism which the plant uses to defend, can function as exogenous antioxidants because they can help delay, inhibit or prevent the oxidation process by acting as free radical scavengers decreasing the process known as oxidative stress. In this sense supplement with antioxidants it is essential to prevent and delay the possible consequences of oxidative stress [57,58]. ability is made possible by its ability to trap free radicals, in which the polyphenols can break uncontrolled free radical generation, on the other hand can regulate the enzymatic activity (superoxide dismutase, catalase, glutathione peroxidase) or chelating metals involved in the production of free radicals [59,60].

current interest for the study of secondary metabolism has various shades. On one hand, almost all of the known secondary metabolites have some kind of activity, the so called antibacterial,

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