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Traditional medicinal plants used for the treatment pain and inflammation in Morelos (Mexico): An ethno-botanical survey

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The aim of the study was to conduct an ethno-botanical survey, focusing on people's knowledge on plants used to treat pain and inflammation. Information on 100 medicinal plant species was obtained from the folk medicinal practitioners. Detailed information was collected as to plants, plant parts or combination of plants used, formulation of medicines, dosages as well as ailments for which the plants are used. Plant specimens were collected and brought to HUMO Herbarium (Herbarium of the University of Morelos) for complete identification. Most of species were native from Mexico but a number important of them were introduced from different origins. The part of the plant most frequently used was the aerial part (35.4%) and the leaves (29.4%). The remedies were mainly prepared as a decoction and an infusion. A perusal of the scientific literature showed that uses of several plants by the rural populations are validated by scientific studies on the pharmacological activities of the relevant plant species. Overall, the plants present considerable potential for further scientific studies leading to discovery of novel drugs and conservation of the most important native species. We have developed efficient protocols for micro-propagation and analysis of secondary metabolites of several of these plants used for the treatment pain and inflammation in Morelos.

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Phosphodiesterase 4 (PDE4) inhibitors as potential anti-inflammatory drugs for treatment of chronic obstructive pulmonary disease (COPD)

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Phosphodiesterase (PDE) enzymes are responsible for the hydrolysis of Cyclic Adenosine Monophosphate (c-AMP) and Cyclic Guanosine Monophosphate (c-GMP). They are classified into 11 major families and the type-4 Phosphodiesterase (PDE4) is a c-AMP specific phosphodiesterase localized in airway smooth muscle cells as well as in immune and inflammatory cells. Inhibition of PDE4 results in the elevation of c-AMP in these cells, which in turn down-regulates the inflammatory response. COPD is a generic term that embraces several debilitating inflammatory pathologies that often co-exist and is characterized by a slowly progressive and largely irreversible decrement in lung function. There are no drugs that can resolve the underlying inflammation in COPD; even the efficacy of glucocorticoids is controversial. Recently, there has been much interest in PDE4 inhibitors for COPD, which are predicted to alleviate the neutrophilic inflammation associated with this generic disorder. Unfortunately, the effects of prototype PDE4 inhibitors have been compromised by side effects such as nausea, emesis and gastrointestinal disorders. Several companies have focused on the design of a new generation of PDE4 inhibitors dissociating beneficial activity and adverse effects.

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