

Effects of Arecoline on Oral Fibroblasts– Review

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Abstract:

Areca nut (AN) is consumed by more than 600 million of individuals, particularly in South Asia, East Africa and Tropical Pacific regions being categorized as carcinogenic to humans. The most popular way of exposure consists of chewing a mixture of areca nut with betel leaf, slaked lime and other ingredients that may also contain tobacco in the form of Betel quid (BQ). Betel quid chewing shows strong correlation with the incidence of oral submucous fibrosis and oral cancer. Arecoline is a naturally occurring psychoactive alkaloid with partial agonism to nicotinic and muscarinic acetylcholine receptors. It is the principal active compound of areca nut and therefore has been systemically studied over the years in several in vitro and in vivo genotoxicity and cytotoxicity endpoints.

However, much of this information is dispersed, I would like to describe and integrate the genetic toxicology data available as well as to address key toxicokinetics i.e., cytotoxic and cytostatic aspects of arecoline.