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Investigating the role of Delonix regia leaf extract (DRLE) on cardioprotective effect

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Delonix regia is a kind of flowing plants in pea family which is widely plated as tropical areas, such as Taiwan, India, Vietnam, Malaysia and central region of South America. This plant is widely used to treat many diseases in folk medicine including constipation, rheumatoid arthritis, diabetes, pneumonia, malaria and so on. However, the role of Delonix regia on cardio-protective effect remains unclear. In this study, we followed the law of Chinese medicine judging theory "red foods nourish the heart" on plant morphology, speculated that the flaming red flowers plant Delonix regia may act as an "active blood and resolve stasis" reagent on heart diseases and may improve heart function. We used Delonix regia leaf extract (DRLE) as a tool for its easy to obtain and the higher anti-inflammatory and anti-oxidative effect. According to our finding, we found that DRLE could reduce the mortality rate in isoproterenol (ISO)-induced heart injury and hypertrophy mice. In addition, we also confirmed that DRLE could alleviate the heart damage by pathological examination. In the biochemical study, we also found that CPK, LDH, GOT and TNF-α are reduced but NO level is increased in DRLE treated ISO-injected mice. In the in vitro study, we found that DRLE could dilate porcine coronary artery in a dose-dependent manner. In conclusion, we firstly demonstrated that DRLE has cardioprotective effect might associate with NO induced vasodilation and reduce myocytes injury via inhibition of TNF-α pathway. Based on our above findings, we thought DRLE could act as a novel herbal medicine for cardio protection.

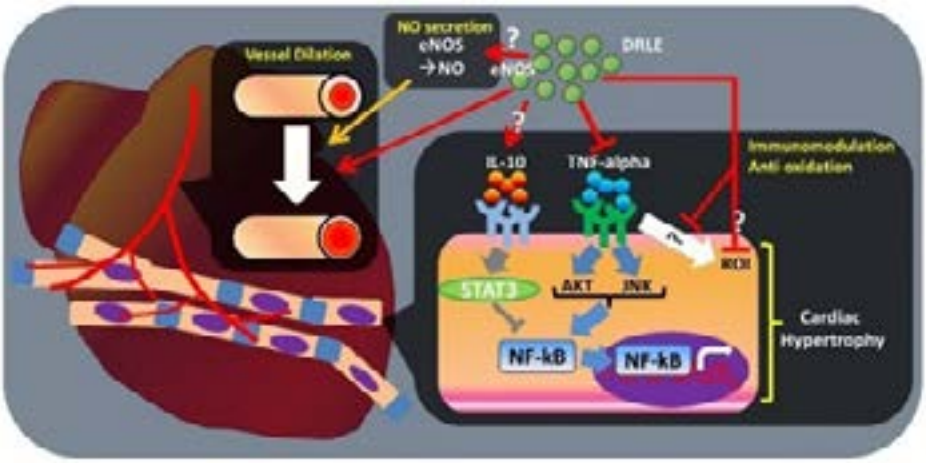

Figure 1: The possible cardioprotective mechanism of DRLE

Biography

Chun-Ting Lee is Medical Resident in Department of Chinese Medicine at Kaohsiung Chang Gung Memorial Hospital. He is interested in Immunology, Microbiology, Cancer Biology and Novel Drug investigation. He has about 10 years of lab experiences and involves in many research projects such as peptide drug development, basic research on tumor biology and novel application of herbal medicine. He publishes academic research articles.

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