

Evaluation of Traditional Chinese Medicine Plant Extracts for Potential Use in the
Treatment of
Cutaneous Leishmaniasis

by
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Abstract

Leishmaniasis is a vector-borne disease caused by protozoan parasites in the genus *Leishmania*. Leishmaniasis is contracted when a vertebrate host is bitten by an infected sand fly. The most common presentation of the disease, cutaneous Leishmaniasis, affects the skin and causes painful and disfiguring skin sores. The current drugs available to treat cases of cutaneous Leishmaniasis can be very toxic to the patient, and there are growing concerns about the emergence of resistant strains. However, there are few new classes of anti-leishmanial drugs in the development pipeline. Plant-based extracts have been shown to be a promising source for mining new classes of anti-infective compounds. In this study, 72 extracts from 18 plants that have been used in traditional Chinese medicine were evaluated for activity against *Leishmania amazonensis*, one of the species that causes cutaneous Leishmaniasis. High dose (50 µg/mL), in vitro assays using a luminescence-based ATP detection reagent were used to quantify the inhibitory effects of extracts on parasites. These data were then combined with toxicity data from the mammalian cell line, L6, to prioritize extracts that produced high selectivity (high parasite inhibition with low mammalian cell toxicity) for bioassay guided fractionation to determine the active component(s).