

Antitumor Principle Constituents of *Myrica rubra* var.

acuminata

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Abstract

Myrica rubra var. *acuminata* is a native shrub widely distributed and used as folk medicine in Taiwan for stomach disorders and diarrhea. Column chromatography combined with cytotoxic bioassay-guided fractionation was performed to isolate the antitumor principles from fresh leaves of *M. rubra* var. *acuminata*. The 20% MeOH eluate fraction of *M. rubra* var. *acuminata* inhibited the viability of HeLa and P-388 cells in an in vitro assay and an in vivo P-388 tumor-bearing CDF(1) mouse model. The percent increase in life span (%ILS) of 20% MeOH eluate fraction was greater than 125%. (-)-Epigallocatechin 3-O-gallate (1) and prodelphinidin A-2,3'-O-gallate (2) were isolated from D-20 as the antitumor principle components. Both compounds can inhibit the growth of HeLa cells, but 1 had lower cytotoxic effects in normal cervical fibroblasts than did 2. Moreover, pretreatment with a caspase-3 specific inhibitor prevented 1- and 2-induced poly(ADP-ribose) polymerase cleavage. In view of these results, we suggest that 1 and 2 can induce apoptosis in HeLa cells and that activation of caspase-3 may provide a mechanistic explanation for their cytotoxic effects. Therefore, we suggest that the 20% MeOH eluate fraction extract is good for health and that *M. rubra* var. *acuminata* is an economically valuable plant.