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Anti-Tumor Promoting Activities of Edible Plants against Okadaic Acid

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The anti-tumor promoting activities of 120 kinds of edible plants against the non TPA-type promoter, okadaic acid (OA), were investigated by measuring suppression of the inhibitory effect of OA on protein phosphatase-2A (PP2A), since OA promotes tumor formation by inhibiting this enzyme. One quarter of the tested samples showed activity over 20%. In particular, 8 kinds of plants (basil (100%), peppermint (100%), carrot leaf (100%), broccoli (100%), nabana (98%), edible burdock (86%), watermelon (99%) and winter fungus (100%)) showed very strong activity. Physicochemical properties of the active components contained in the samples that showed high activity were found that the active component in the major sample was inactivated by cold storage or boiling, and that only edible burdock showed strong activity following both types of processing. Soluble fractions from these samples were obtained by extraction in hexane, benzene, ethyl acetate, methanol and water. Very strong anti-OA activity was observed in water soluble extracts of edible burdock and eggplant, whereas cabbage and broccoli showed activity in the extraction fractions in organic solvents such as hexane. Although the active components in these samples were not identified, these findings suggest that the component with anti-okadaic acid activity must be present in edible plants.

Keywords: [okadaic acid](#), [anti-tumor promoting activity](#), [protein phosphatase-2A \(PP2A\)](#), [edible plants](#), [edible burdock](#)



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