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Methanol Extract of the seaweed *Gloiopeltis furcata* Induces G2/M Arrest and Inhibits Cyclooxygenase-2 Activity in Human Hepatocarcinoma HepG2 cells

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We previously reported that methanol extract of *Gloiopeltis furcata*, (MEGF), a kind of edible seaweed, inhibited the growth in several human cancer cell lines. In the present study, the effect of MEGF on the growth of human hepatocarcinoma cells and its effect on the cyclooxygenases (COXs) expression were investigated. MEGF remarkably reduced the viability of human hepatocarcinoma cell lines, HepG2 and induced the G2/M arrest of the cell cycle in a concentration dependent manner, which effects were associated with down-regulation of cyclin A and up-regulation of cyclin-dependent kinase (Cdk) inhibitor p21 (WAF1/CIP1) without induction of phosphorylation of Cdc2 and Cdc25C. Furthermore, we found MEGF decreased the levels of COX-2 mRNA and protein expression without significant changes in the levels of COX-1, which was correlated with a decrease in prostaglandin E2 (PGE2) synthesis. These findings indicate that MEGF may have a possible therapeutic potential in hepatoma cancer patients.