



Mangosteen Extract Reduces the Expression of Matrix Metalloproteinase -2 and -9 in Traumatic Brain Injury

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Abstract : Traumatic brain injury (TBI) is one of the most significant cause for mortality and morbidity in young population. After the primary injury, there is secondary injury that will aggravate the injury and lead to cell death. Secondary injury can be prevented and reversible, providing opportunity for therapeutic intervention. Matrix metalloproteinases (MMPs) are endopeptidases that participates mainly in the dynamic modulation of the extracellular membrane. In some neurological diseases, MMPs will cause breakage of the blood brain barrier (BBB), hemorrhage, neuronal inflammation, and neuronal cell death. In this study, we used an experimental mouse model of TBI to examine the role of MMP-2 and MMP-9 and the therapeutic potential of mangosteen extract that contain natural MMP inhibitor. We observed that expression of MMP-2 and MMP-9 were reduced in treatment group. These findings suggested that mangosteen extract might be a potential therapeutic agent for TBI.

Keywords : Mangosteen extract; MMP-2; MMP-9.

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