

ABSTRAK

Efek Proteksi Capsaicin Pada Ekspresi *Protein Kinase (Akt1)* Dan *Mitogen-Activated Protein Kinase 1 (Mapk1)* Pada *Hepar Mencit (Mus musculus)* Yang Diinduksi Aflatoksin B1 (AFB1).

Oleh

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Latar Belakang: Penelitian analisis bioinformatika interaksi dan prediksi identifikasi panel gen protein sebagai target mengevaluasi efek kerusakan yang oleh AFB1 dan menginduksi jejas hepatic. Capsaicin mempunyai aktivitas : 1). Menginduksi apoptosis, 2). Menginduksi siklus sel, 3). Menurunkan regulasi faktor ekspresi transkripsi. **Tujuan:** Membuktikan capsaicin menghambat ekspresi protein target AKT1 dan MAPK1 pada mencit karena induksi AFB1 secara *in silico* dan *in vivo*. **Metode:** bioinformatika *Molecular docking (In silico)*. IHC menghitung skor ekspresi dengan antibodi monoklonal dan skor patogenesis jejas hepatic; kongesti, degenerasi dan nekrosis (*In vivo*). **Hasil:** Penambatan molekul *molecular docking* energi bebas *Gibbs* bernilai negative. Skoring secara sinergis menghambat regulasi jalur pensinyalan AKT 1 dan MAPK 1 berpotensi sebagai hepatoprotektor. **Kesimpulan:** Capsaicin terbukti mempunyai efek proteksi terhadap induksi AFB1; pencegahan terjadinya ekspresi AKT1 dan MAPK1 dan jejas hepatic memiliki potensi kandidat *herbal medicine* sebagai hepatoprotektor.

Kata Kunci : Capsaicin, Aflatoksin B1, AKT1 dan MAPK1

ABSTRACT

Protection Effects of Capsaicin on the Expression of Protein Kinase (Akt1) and Mitogen-Activated Protein Kinase 1 (Mapk1) in the Liver of Mice (Mus musculus) Induced by Aflatoxin B1 (AFB1).

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Background: The study of bioinformatics interaction analysis and prediction of the identification of protein gene panels as targets evaluated the effects of AFB1 damage and induced hepatic injury. Capsaicin has the following activities: 1). Induce apoptosis, 2). Induce cell cycle, 3). Reducing of cell-regulatory transcription expression factors. **Objective:** To prove that capsaicin inhibits the expression of AKT1 and MAPK1 target proteins in mice due to the induction of AFB1 in silico and in vivo. **Method:** Molecular docking (In silico) bioinformatics. IHC calculated the expression score with a monoclonal antibody and the hepatic injury pathogenicity score; congestion, degeneration, and necrosis (In vivo). **Result:** The docking of Gibbs free energy molecular docking molecules is negative. Scoring synergistically inhibits the regulations of the AKT 1 and MAPK 1 signaling pathways as potential hepatoprotective. **Conclusion:** Capsaicin has been shown to have a protective effect against AFB-1 induction; prevention of AKT1 and MAPK1 expression and hepatic lesions have potential candidates for herbal medicine as a hepatoprotection.

Keywords: Capsaicin, Aflatoxin B1, AKT1 and MAPK1