

CRUDE BETA GLUCAN BINDING PROTEIN (CBGP) PROFILING
OF OYSTER, *Crassostrea iridalei* AND ITS
FUNCTIONAL ASSAYS.

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CRUDE BETA GLUCAN BINDING PROTEIN (BGBP) PROFILING OF OYSTER,
Crassostrea iredalei AND ITS FUNCTIONAL ASSAYS.

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**CRUDE BETA GLUCANS BINDING PROTEIN (β GBP) PROFILING OF
OYSTER, *Crassostrea iredalei* AND ITS FUNCTIONAL ASSAYS.**

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Crude β -1, 3-glucan binding protein was successfully isolated from slipper oyster, *Crassostrea iredalei* using laminarin (β -glucan) precipitation. Plasma concentration of *C. iredalei* was 0.121 mg ml⁻¹ protein and contains a weak hemagglutinating activity. Supernatant could agglutinate most of red blood cells (RBC) tested due to presence of laminarin in contrast to whole plasma and pellet. The selective specificity as observed in hemagglutination test suggests it may function as a pattern recognition molecule. Serine protease activity in *C. iredalei* shows the activation of phenoloxidase (PO) from inactive form prophenoloxidase (proPO). Presences of RBC agglutination in supernatant containing laminarin and PO enhancing activities in serine protease activity suggest that this protein is bifunctional. Crude β GBP of *C. iredalei* is a monomeric protein with a molecular mass of 127.4kDa and composed of four protein subunits under denatured condition

**PEMPROFILAN PROTEIN PENGIKAT BETA GLUCAN (β GBP) PADA
TIRAM, *Crassostrea iredalei* DAN UJIAN FUNGSINYA.**

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Protein pengikat beta glucan (β GBP) mentah telah diisolat dari tiram, *C. iredalei* menggunakan pemendapan laminarin (Beta glucan). Kepekatan protein *C.iredalei* yang diperolehi dalam kajian ini ialah sebanyak 0.121 mg ml^{-1} dan mempunyai aktiviti hemagglutinasii yang lemah. Supernatant dapat mengumpalkan kebanyakan sel darah merah (RBC) yang di uji dan ini terjadi di sebabkan kehadiran laminarin tetapi berbeza dengan keseluruhan plasma dan pellet. Pemilihan khusus dalam aktiviti hemagglutinin mencadangkan ia berkemungkinan berfungsi sebagai pattern recognition molekul. Aktiviti serine protease dalam *C. iredalei* menunjukkan pengaktifan phenolidase (PO) daripada bentuk tidak aktif iaitu prophenolidase (proPO). Kehadiran aktiviti pengumpulan dan peningkatan PO dalam aktiviti serine protease menunjukkan bahawa protein ini adalah bifunctional. β GBP mentah *C. iredalei* adalah protein monomeric dengan jisim moleculnya sebanyak 127.4kDa dan terdapat empat subunit protein yang wujud dibawah keadaan denatured.