

# **Histopathological studies on liver, kidney and heart of normal and dietary induced hyperlipidaemic rats fed with tropical red seaweed, *Gracilaria changii***

## **Abstract**

The hypolipidaemic and organ protective potentials of consuming tropical red seaweed, *Gracilaria changii*, were determined. We also evaluated the histopathological effects and safety on the organs (liver, kidney and heart) in male Sprague Dawley rats fed with a [1] normal diet (NF), NF supplemented with [2] 5% or [3] 10% *G. changii* powder, [4] high cholesterol/fat diet (HF), and HF supplemented with [5] 5% or [6] 10% *G. changii* powder and [7] Atorvastatin. Microscopic examination revealed that *G. changii* supplementation in the HF diet ameliorated the histological changes in the rat liver cells, and this group had lower levels of hepatic steatosis and inflammatory infiltration compared to the HF group. No adverse effects were observed in the organs of NF rats that consumed *G. changii*. Thus, *G. changii* had protective effects against induced hyperlipidaemia and could improve the hyperlipidaemia-associated alterations in organ structures. These findings suggest that *G. changii* could be used as a functional food ingredient for human consumption.