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Anti-fibrotic Effects of *Saccharomyces cerevisiae* Fermented *Tenebrio molitor* on TGF-β1-stimulated LX-2 Cells.

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Hepatic fibrosis is a common chronic liver diseases, characterized by the excessive deposition of extracellular matrix (ECM). Activation of hepatic stellate cells (HSC) is proliferative and fibrogenic and accumulating ECM. Transforming growth factor (TGF)-β1 is a critical mediator of HSC activation and ECM accumulation leading to fibrosis. *Tenebrio molitor* (TM), known as yellow mealworms, is reported in many countries as the nutritional value of foods. Our study has aims of finding liver function improvement effect of *S. cerevisiae* fermented *Tenebrio molitor* (SCTM) in vitro model. SCTM regulates TGF-β1 induced hepatic fibrosis via regulation of the TGF-β1/Smad signaling. Also, we compared the components increased by yeast fermentation. It is possible to make a useful insect-derived alternative food in the improvement of hepatic liver disease.

Key words: Hepatic fibrosis, Hepatic stellate cells, TGF-β1, *Tenebrio molitor*, *Saccharomyces cerevisiae*

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