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Screening of Pancreatic lipase inhibitors from endophytic fungi

Lipase inhibitors are compounds that locally block pancreatic and gastric lipases in the stomach and small intestine, preventing the hydrolysis of triglycerides (TGs) from food into absorbable monoglycerides and free fatty acids. Pancreatic lipase (PL) is considered as one of the safest target for diet induced anti induced, anti-obesity drug development. Search for pancreatic lipase (PL) inhibitors is essential for obesity and associated chronic disease therapy. PL inhibitors significantly reduce enzyme activity and prevent the absorption and hydrolysis of triglycerides into free fatty acids. This review outlines a comprehensive approach to discover and characterize pancreatic lipase inhibitors derived from endophytic fungi, aiming to develop novel therapeutic agents for obesity and metabolic disorders. The methodology includes the isolation of fungal strains, screening for lipase inhibitory activity through agar plate and spectrophotometric assays, and extraction of active compounds via fermentation. Further analysis involves in vitro enzyme assays, characterization using mass spectrometry and NMR, molecular identification through DNA sequencing.

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