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Protective of ethanol extract of *x Brassicaeaphanus* on hepatic damage in D-galactosamine intoxicated rats and *Agrobacterium*-mediated transformation with myrosinase gene in Chinese cabbage

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Objectives

X brassicaraphanus, an intergenic breed crossed between Brassica campetris ssp. Pekinensis and Raphanus sativus could have protective effect on liver damage in D-galactosamine intoxicated rats.

To analyze the function of myrosinase gene, Chinese cabbage was transformed with myrosinase gene.

Materials and Methods

1. Material

Plant *x Brassicoraphanus*, Chinese cabbage DA001, Tobacco SR1
Agrobacterium strain - LBA4404

2. Methods:

Rats were intoxicated with D-galactosamine, then measured phase I type enzymes including xanthine oxidase, aldehyde oxidase, aminopyrine N demethylase, aniline hydrolase and phase II enzymes including SOD, catalase and GSH-PX.

Results and Discussion

In present study, protective effect of ethanol extract of *x Brassicoraphanus* was evaluated on the liver damage in D-galactosamine intoxicated rats. Ethanol extract of *x Brassicoraphanus* significantly inhibited lipid peroxide, and phase I enzyme including xanthine oxidase, aldehyde oxidase, aminopyrin N demethylase, aniline hydrolase in D-galactosamine intoxicated rats, while it also significantly increased the phase II enzymes such as SOD, catalase and GSH-PX compared with untreated control.

To analyze the function of myrosinase gene, Chinese cabbage (Inbred line DA001) and tobacco (SR1) were transformed with sense- or antisense- oriented myrosinase gene. Hypocotyl explants of Chinese cabbage and leaves of tobacco plants were incubated with *Agrobacterium tumefaciens* LBA4404, and selected with PPT. 10 transgenic plants were obtained with sense-oriented or antisense-oriented myrosinase gene, respectively. These transgenic plants were acclimated in greenhouse and are growing for further studies.

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