

# **Glutathione peroxidase-like activity of 33 kDa trypsin inhibitor from roots of sweet potato (*Ipomoea batatas* L. Lam Tainong 57)**

侯文琪

Hou WC;Chen HJ;Han CH;Lin CY;Lin YH

## **Abstract**

The hydrogen peroxide, glutathione (GSH), 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide (MTT) and phenazine methosulfate (PMS) were used for spectrophotometric assay of commercial glutathione peroxidase (GPx) activity at 570 nm. A positive correlation ( $r(2) = 0.998$ ) was found between level of GPx activity and the absorbance changes (%). The 33 kDa trypsin inhibitor (TI) was purified from the storage roots of sweet potato (SP) (*Ipomoea batatas* [L.] Lam 'Tainong 57') by trypsin-Sepharose 4B affinity chromatography and preparative acrylamide gel electrophoresis. The first 15 amino acids in the N-terminal region of 33 kDa TI were SSETPVLDINGDEVR, which were identical to that of deduced sequence of sopramin A or B. A positive correlation ( $r(2) = 0.979$ ) was found between the amounts of 33 kDa TI added and absorbance changes. Absorbance changes of 5.18, 16.35 and 25.83%, respectively, were obtained when 100, 200 and 250 mug 33 kDa TI were added, which were equal to 0.56, 1.21 and 1.76 GPx units. Using TI and GPx activity stainings, it was confirmed that 33 kDa TI exhibited GPx-like activity. The physiological significance of TIs with GPx activities is discussed