

**The dietary effects of a fermented vegetable product on  
glutathione peroxidase activity and lipid peroxidation of  
Japanese flounder *Paralichthys olivaceus***

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To study the dietary effects of fermented vegetable product ( FVP ) on the protection against lipid peroxidation of various tissues in Japanese flounder, *Paralichthys olivaceus*. The fish were fed on experimental diets with or without FVP for 4 weeks. The glutathione concentration in serum or liver had a tendency to increase on FVP-feeding fish. The FVP-feeding fish showed higher glutathione peroxidase ( GPx ) activity of liver than the control fish, and the GPx activity was increased by the administration of 6 mg / kg body weight / day FVP (  $P < 0.05$  ). Conversely, fish fed on FVP containing diets exhibited significantly (  $P < 0.05$  ) lower lipid peroxidants of serum and liver than the control fish. The FVP is suggested to suppress lipid peroxidation in administrated fish, which led to enhancement of antioxidant effect against cultured fish.