

Anti-Fatigue Action

Annual Conference of the Japan Society for Bioscience, Biotechnology and Agrochemistry (2015)
Natural Product Communication (2017)

① Def. of Fatigue
② measure on oxidative stress

The fermented vegetable extract OM-X (OM-X extract) is effective in the reduction of substances causing fatigue among mouse models for fatigue test.

Objective

We measured the levels of the substances causing fatigue and the gene expression that is involved in the metabolism of ammonia by ingestion of the OM-X extract among mouse models for fatigue test.

Methods

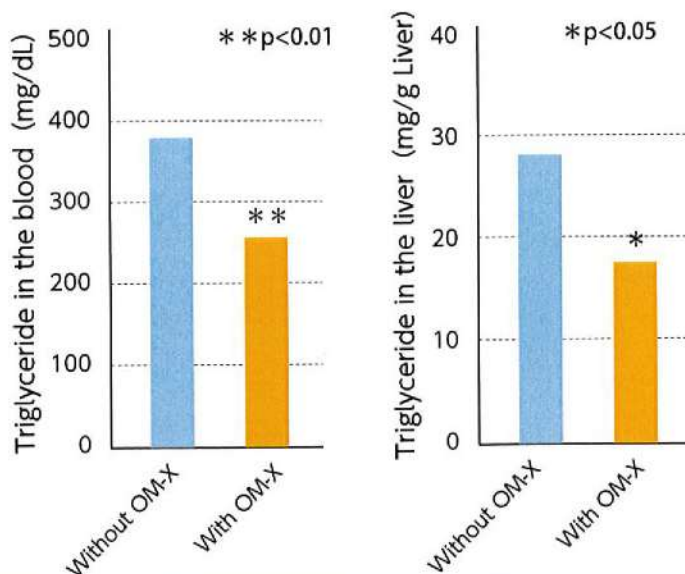
We divided test mice into 2 groups: with and without the OM-X extract, and both groups were given a forced swimming in order to make them be a model for fatigue test. Then, we examined the capacity of lipid metabolism in their blood and liver, and the gene expression of ammonia metabolism in their ornithine cycle.

Results

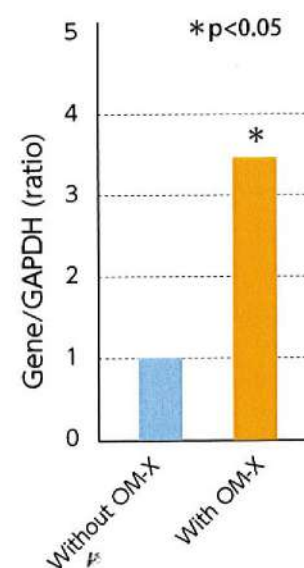
The results from the examination on the capacity of lipid metabolism in the liver of both groups showed that the level of triglycerides in the blood and the liver of the OM-X group has significantly decreased. There was no change in the level of glucose in the blood and glycogen in the muscles and the liver.

In the ornithine cycle, the gene expression (*Cps1*, *Arg1*) that is involved in metabolism of ammonia, which is known as a fatigue-causing substance, was significantly increased in the OM-X group. These results suggested that the OM-X extract is effective against the fatigue factors.

The level of triglyceride in the blood and liver



The level of the gene expression involving in the metabolism of ammonia (*Cps1*)



The fermented extract OM-X is effective to reduce the accumulation of fatigue-causing substances and to alleviate fatigue.

→ mental fatigue
→ fatigue in liver