

Antioxidant Property, ACE-Inhibiting Activity

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The fermented vegetable extract OM-X (OM-X extract) showed an increment of its antioxidant activity and inhibitory activity of blood pressure elevation that is proportional to its fermentation and maturation periods.

Objective

The OM-X extract undergoes fermentation and maturation processes for a maximum of 5 years. We examined a shift of its antioxidant activity and inhibitory activity of blood pressure through its fermentation and maturation periods.

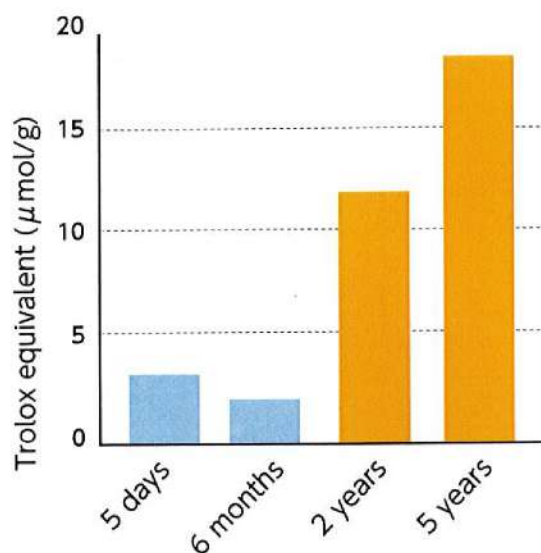
Methods

We measured the level of DPPH radical-scavenging activity in order to examine the potential level of the antioxidant activity of the OM-X extract. Subsequently, we measured the level of angiotensin converting enzyme-inhibiting activity (ACE-inhibiting activity) as an index of inhibitory activity of blood pressure elevation.

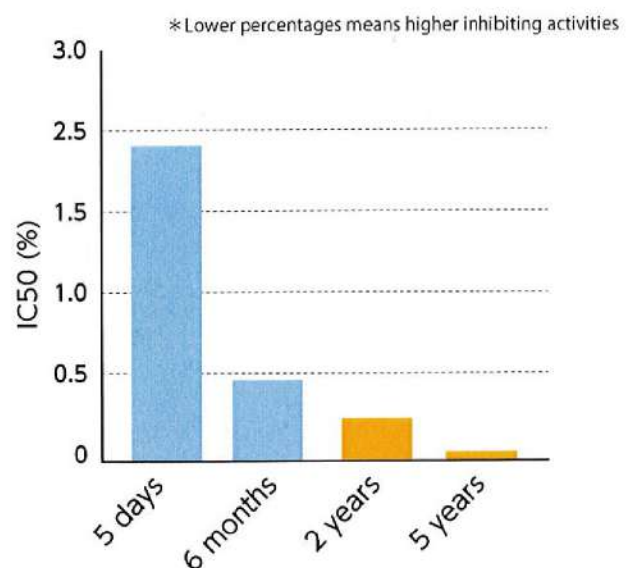
Results

The OM-X extract undergoes unheated processes for fermentation and maturation for a long time. The extract was sampled immediately after the start of fermentation, after 6 months, 2 years and 5 years to see its food functionality. The level of DPPH radical-scavenging activity, the index of the antioxidant activity, was increased in process of time. The ACE-inhibiting activity which is the index of inhibitory activity of blood pressure elevation also increased over time. These results suggested that the OM-X extract gains more food functionalities by undergoing prolonged unheated fermentation processes.

Changes in an antioxidant activity over the fermentation time



Changes in an inhibitory activity of blood pressure over the fermentation time



The fermented extract OM-X which underwent a prolonged unheated fermentation process acquired higher potential levels of antioxidant activity and inhibitory activity of blood pressure.