★★★ ＜第26回知的財産翻訳検定試験【第14回和文英訳】＞ ★★★
≪１級課題 -バイオテクノロジー-≫

【問 1】

Recently the use of tomatoes has been expanded to dessert such as jellies and cakes. Such expansion of the use of tomatoes requires improvement of their usual tastes.

Some ways for improving sweetness of tomatoes are known; specifically, cultivation with insufficient water supply (non-patent document 1 and 2), cultivation with root restriction (non-patent document 3), and hydroponics (non-patent document 4). The effect of these methods is to simply increase the sugar contents in the tomatoes.

A factor that determines the taste of tomatoes is the composition of sugars. Sweetness of fructose is high but lingering time of sweetness is short; that is, its aftertaste is sharp. Lingering time of sweetness of glucose is long but the sweetness is low. Sweetness of sucrose is lower than fructose but the sweetness lingers for a long time (non-patent document 5). The sucrose contents of tomatoes currently in the market are at an undetectable level or at a traceable level and the lingering sweetness unique to sucrose cannot be perceived.

【問 2】

The "agent for preventing or treating prostate cancer" of the present invention refers to agents containing, as an effective ingredient, double-stranded nucleic acid molecules for suppressing the expression of the G3BP2 gene, with which the prostate cancer can be prevented or treated by suppressing the expression of the G3BP2 gene with the double-stranded nucleic acid molecules.

The agent may contain other ingredients and pharmaceutically acceptable carriers in addition to the effective ingredient as long as the agent can prevent or treat the prostate cancer.

The "G3BP2 gene" has been reported to be overexpressed in human breast cancer cells and be an adverse prognostic factor. In the present invention, the "G3BP2 gene" may be referred to as a "target gene" of the double-stranded nucleic acid molecules based on the fact that the mRNA sequence of the gene becomes a target of the double-stranded nucleic acid

molecules and its expression is suppressed by the double-stranded nucleic acid molecules.

For reference, the nucleotide sequence of the human "G3BP2 gene" is shown as SEQ No: 1 of the Sequence Listing.

The "double-stranded nucleic acid molecule" of the present invention refers to double-stranded nucleic acids formed by hybridization of desired sense and antisense strands.

【問 3】

As a result, as shown in Figure 6, when unfertilized eggs were soaked in the immersion liquid comprising 0.3 mM or less of ENU for one hour, a little more than 60% of the eggs survived in comparison with the control (eggs in an ENU-free immersion liquid) even at hatching. As shown in Table 2, 1405 *Oncorhynchus masou macrostomus* (Japanese AMAGO) hatched from the fertilized eggs obtained from the unfertilized eggs soaked in the immersion liquid comprising 0.3 mM of ENU according to Production Method 1, and two of them were albino mutant *O. masou macrostomus* (non-mosaic fish).

The results show that mutated cultured fish can be produced by the soaking method in which unfertilized eggs of cultured fish are soaked in an immersion liquid comprising a chemical substance. After the unfertilized eggs of the cultured fish were soaked in the immersion liquid comprising the chemical substance, non-mosaic fish were obtained with the rinsing step whereas mosaic fish were obtained without the rinsing step. Therefore, according to the method of the present invention, production of mutated culture fish can be conducted as easily and safely as that of mutated experimental small fish.

【問 4】

1. An obesity preventing agent comprising, as a main ingredient, a cruciferous plant or component contained therein, characterized in that the agent reduces fat in a body to reduce body weight by preventing fat decomposition to inhibit the fat absorption or improving the lipid metabolism in a body.

2. The obesity preventing agent according to claim 1 wherein the cruciferous plant is a rhizome and/or a leaf of *Eutrema japonicum*.

3. The obesity preventing agent according to claim 1, wherein the component contained in the cruciferous plant is one or more selected from the group consisting of flavonoids, phenylpropanoids, and isothiocyanates.

4. The obesity preventing agent according to claim 1, wherein the lipid metabolism in the body is improved by inhibiting an increase of white adipose tissue weight, promoting an increase of brown adipose tissue weight, or promoting an increase of leptin in a body by the cruciferous plant or component.

5. A beverage, food product or medicine comprising the obesity preventing agent according to any one of claims 1 to 4 comprising, as a main ingredient, the cruciferous plant or component.