



Characteristics

For UV protection and Skin-lightening, by eating

- Skin-lightening effect (tyrosinase inhibiting effect , melanin production suppressing effect)
- Skin melanin production suppression containing Eugeniiin as an active ingredient(Patent No. 4659378)
- By suppressing collagenase inhibition, hyaluronidase inhibition, and elastase inhibition action , suppresses the degradation of extracellular matrix components, maintains tenseness, and reduces wrinkles.
- Reduces photoaging and , maintains tenseness.
- Taking orally, suppresses the production of melanin by ultraviolet rays and maintains the skin tenseness and skin- lightening.

For Metabolic syndrome prevention

- Inhibits glucosidase and suppresses a rapid increase in blood glucose level (Blood Glucose Spike) after meals.
- Inhibits lipase and suppresses fat absorption from meal.
- The effect of suppressing obesity and body fat accumulation by continuous intake was confirmed.
- The effect of preventing dyslipidemia by continuous intake was confirmed.

For Oral care

- Antibacterial properties against periodontal disease bacteria *P.gingivivalis* and caries causative bacteria *S.mutans*.

For antioxidant effect

- Recognized antioxidant activity such as DPPH radical scavenging activity, OH radical scavenging activity, and lipid oxidation inhibition.

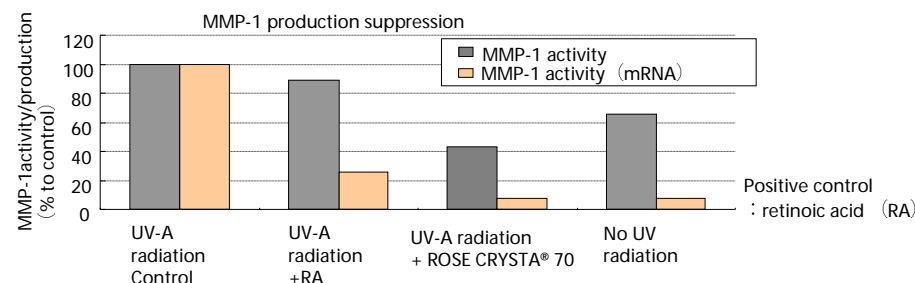
Product name	ROSE CRYSTA®-70	TEST	SPECIFICATION	TEST METHOD
Name	Rose petal extract			
Example of description of raw materials	Rose petal extract	Appearance	Red purple to red brown powder	Visual
Standard amount to be used	100mg/day			
Package	1kg in aluminum bag x 6/ carton box	Odor	Characteristic odor	Organoleptic
Storage	Store it away from direct sunlight and high temperature/humidity			
Expiration date	Four years after manufacturing (No bag opening)	Polyphenol content	More than 70%	Folin-ciocalteu

For Beauty (Skin anti-aging)

(In vitro test)

<Method> Matrixmetalloproteinase-1(MMP-1) which decomposes Type I collagen increases even with small amount of UV and its activity is enhanced by it. So under the condition that MMP-1 production is accelerated by radiating UV-A on dermal fibroblast, the effect of rose petal extract on MMP-1 production suppression was evaluated.

<Result> Rose petal extract was confirmed to suppress MMP-1 production by UV radiation and enzyme activity enhancement, which suggested the prevention of skin aging by UV light.



(Human test)

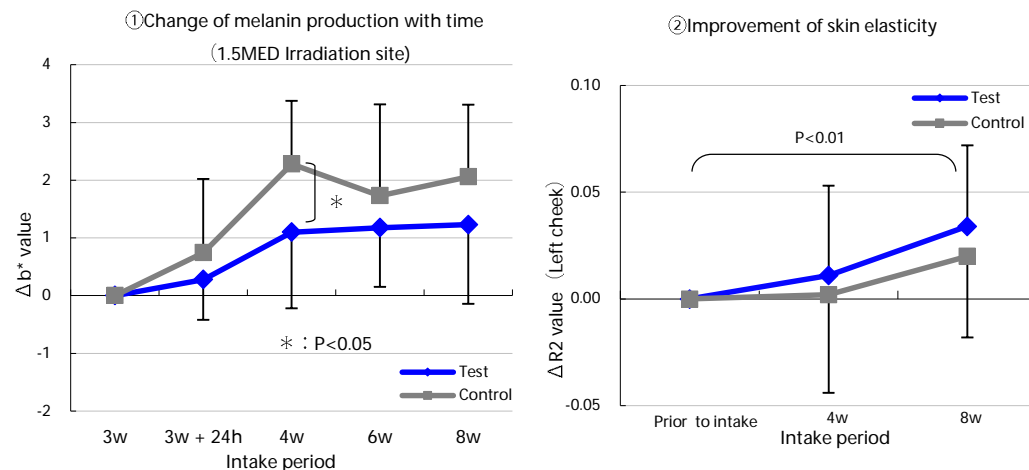
<Test Method> Test and placebo diets were administered to 15 females of each group for 8 weeks (56 days) every day.

Test diet: containing 200mg of ROSE CRYSTA®-70 (equivalent to one day dosage)

Control diet: containing 200mg of dextrin

<Result ①> After taking test diet for 3 weeks, 1.5MED of UV-ray was radiated one time and b* value, the index of melanin formation was measured with time using spectrophotometer. Test diet with ROSE CRYSTA®-70 was found to suppress significantly melanin formation compared with control diet.

<Result ②> R2 value which shows skin elasticity was measured using "Cutometer" and significant elasticity improvement was confirmed only for test diet group.



For dieting against metabolic syndrome (suppression of blood glucose elevation and fat absorption)

(Human test-1)

<Method>

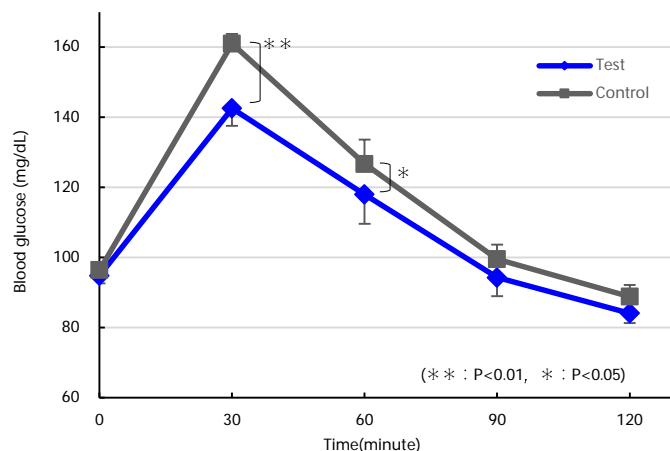
Control: Sucrose 30g/300ml water

Test: Sucrose 30g + ROSE CRYSTA 70 50mg/300ml water

The above-mentioned test substance was ingested over 5 minutes, and blood glucose levels were measured 30, 60, and 120 minutes after ingestion.

There were 7 subjects, and the study was a crossover study of both groups.

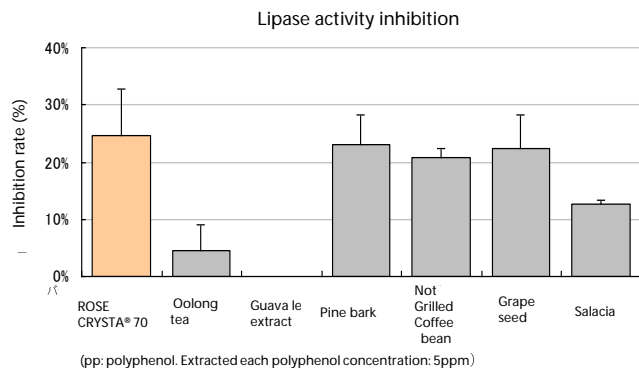
It was clarified that the intake of ROSE CRYSTA-70 suppressed the increase in blood glucose level 30 minutes and 60 minutes after the intake, and suppressed the absorption of glucose.



(In vitro test)

<Method> Enzyme activity inhibition was evaluated with swine derived lipase and olive oil as substrate.

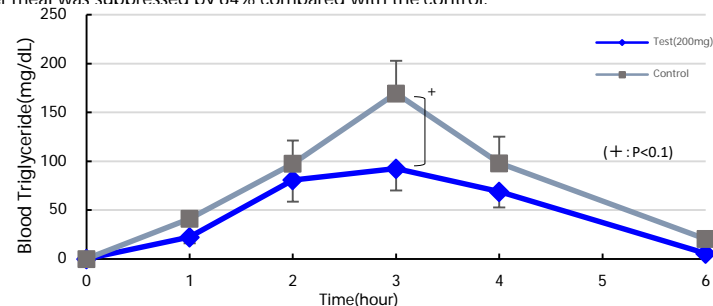
<Result> Poly phenol from rose petal extract has stronger enzyme inhibition activity than the polyphenols from other sources, from which fat absorption suppression can be expected.



(Human test -2)

<Method> Comparative crossover study was made with seven healthy adults (5 male+2 female). After fasting, test group ingested both 200mg of ROSE CRYSTA®-70 and fat diet (total fat: ca.40.4g) at the same time. Before and after ingestion, blood triglyceride level was measured with time. Control group ingested only fat diet.

<Result> By taking both fat diet and ROSE CRYSTA®-70 at the same time, it was confirmed that blood triglyceride level rise after meal was suppressed by 64% compared with the control.



Metabolism: Dyslipidemia prevention effect in humans

<Test method>

A total of five persons (males aged 30–69) that had a higher-than-standard value of either triglycerides, total cholesterol, or LDL cholesterol, which are lipid components, in past blood test results were used as test subjects to evaluate the effect of continuous ROSE CRYSTA-70 intake on lipid components in the blood. The dosage of ROSE CRYSTA-70 was 100 mg/day (taken before dinner), and the period of intake was 23 weeks.

<Results>

It was confirmed that, as a result of the continuous intake of ROSE CRYSTA-70, the amount of triglycerides (A), total cholesterol (B), and LDL cholesterol (C) in the blood tended to decrease. In addition, it was also confirmed that the LDL-to-HDL ratio* (D) declined. Thus, it is expected that the continuous intake of ROSE CRYSTA-70 will prevent dyslipidemia and metabolic syndrome, along with having dietary effects.

* LDL-to-HDL ratio: Ratio of LDL cholesterol (bad cholesterol) to HDL cholesterol (good cholesterol)

Because there are many cases of myocardial infarction even when both the LDL and HDL values are within the standard ranges, the ratio of both values (LDL-to-HDL ratio) is recently being considered important in the diagnosis of dyslipidemia. When the LDL-to-HDL ratio exceeds 2.0, arteriosclerosis is suspected, and when it exceeds 2.5, there is a possibility of blood clot formation, indicating a high risk of myocardial infarction.

