SoyScience™ a Novel Cholesterol Reducing Ingredient

(Complex of Soy Protein Hydrolysate/Phospholipids)

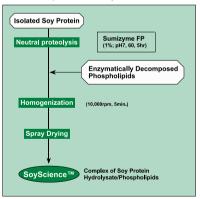
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SoyScience™ is a newly developed soy peptide that significantly decreases serum concentrations of total cholesterol and LDL-cholesterol. It was made by fortifying soy's widely known serum cholesterol reducing property by binding enzymatically decomposed phospholipids to hydrolyzed isolated soy protein. This study was done to evaluate the effects of SoyScience™ on the serum cholesterol levels in rats and human volunteers.

INTRODUCTION

Both soy protein and the high molecular weight fraction obtained from the hydrolysate of soy protein are known for their ability to reduce serum cholesterol levels in humans and in experimental animals, possibly via inhibition of cholesterol absorption in the intestine. Furthermore, a cholesterol-lowering effect of purified phospholipids has also been reported. We hypothesized that the binding of phospholipids to soy protein hydrolysate in large quantities might bring stronger cholesterol-lowering effects.

Preparation of SoyScience™



 Components
 SoyScience™ (weight %)

 Protein
 69.7

 Ash
 5.8
 MW

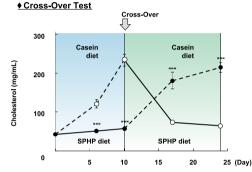
 Moisture
 3.9
 16,949

 Sugar
 8.2
 14,404

 Lipid
 12.4
 8,718

RESULTS

I) In vivo Experiment



Change of serum total cholesterol in rats fed high cholesterol diet with casein or SPHP, which is an active fraction of SoyScience™.

The diets were exchanged on Day 10.

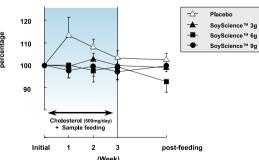
Means } SEM (n=6)

***: p< 0.001 (Students t-test)

II) Clinical Experiment

1 Suppress Cholesterol Elevation

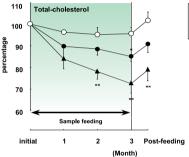
when cholesterol increase is induced by high cholesterol diet

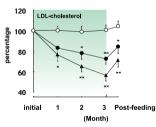


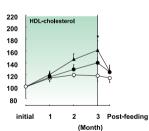
Relative change of serum total cholesterol among men when high cholesterol diet and SoyScience™ 3g/day were given simultaneously for 3 weeks.

2 High Cholesterol Reduction

of hypercholesterolemic people







Placebo

SoyScience™ 3q

SovScience™ 6a

Relative changes of serum cholesterol among men with hypercholesterolemia when given SovScience™ 3g/day for 3 months.

CONCLUSION

This study was conducted to evaluate the effect of SoyScience™ (and SPHP, active fraction of SoyScience™) from a curative point-of-view in addition to a preventive one. These results suggest that SoyScience™ does not only suppress the absorption of exogenous cholesterol, but also reduces cholesterol which has already accumulated within the body. Therefore, SoyScience™, which is prepared from soy, is a unique, safe and an effective functional food ingredient against hypercholesterolemia. In Japan, beverage products that contain SoyScience™ have already been approved by Japan's Ministry of Health, Labor and Welfare as a Food for Specified Health Use (FOSHU).

Means ± SEM (n=4-6)