

SoyScience™ a Novel Cholesterol Reducing Ingredient

(Complex of Soy Protein Hydrolysate/Phospholipids)

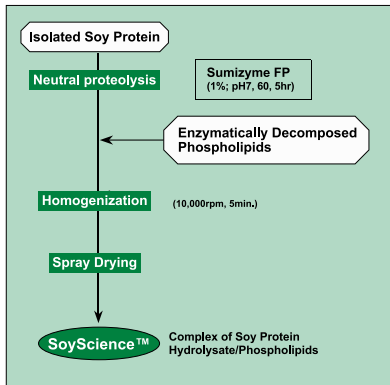
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SoyScience™ is a newly developed soy peptide that significantly decreases serum concentrations of total cholesterol and LDL-cholesterol. It was made by fortifying soy's widely known serum cholesterol reducing property by binding enzymatically decomposed 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
Moisture	3.9
Sugar	8.2
Lipid	12.4

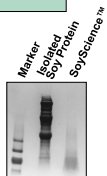
MW

16,949

14,404

8,159

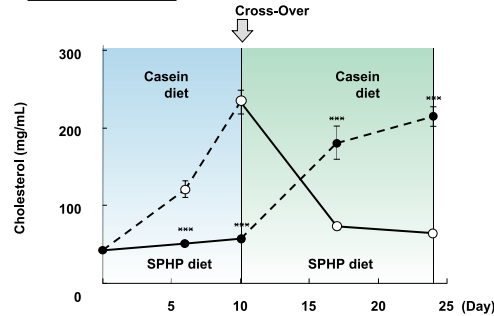
6,214



RESULTS

I) In vivo Experiment

◆ Cross-Over Test



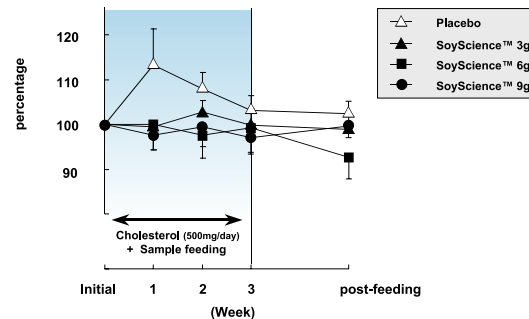
Change of serum total cholesterol in rats fed high cholesterol diet with casein or SPHP, which is an active fraction of SoyScience™.

The diets were exchanged on Day 10.
 Means ± SEM (n=6)
 ***: p < 0.001 (Students t-test)

II) Clinical Experiment

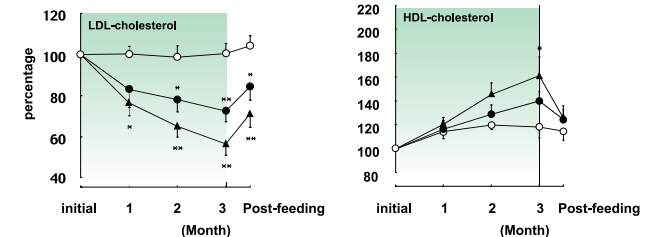
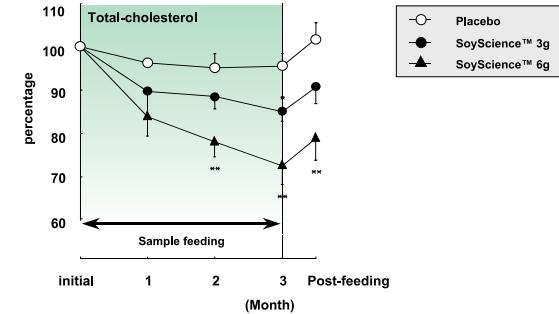
1 Suppress Cholesterol Elevation

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



Relative changes of serum cholesterol among men with hypercholesterolemia when given SoyScience™ 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)