

Details of Technology

Name of Technology	Studies of genetic and chemical characteristics of saponins in soybean seed	Life Science
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Key words	soybean, saponins, functional components, health, taste	

What kind of technology is this?

Outline

Basic research for developing new soybean components with modified nutritional functions and taste characteristics

Many saponins were isolated and characterized in soybean seeds. They are divided into two groups: Group A saponins having undesirable tastes and DDMP group having health benefits. They show variety- and organ-specific polymorphisms in the seeds. The reduction by genetic means of saponins possessing undesirable characteristics, and the increase of the others with health benefits, would contribute greatly to the improvement of soybean-based foods. We have found naturally-occurring mutant soybeans with various saponin compositions. Our findings have contributed to develop new soybean varieties such as Kinusayaka (bred in National Agricultural Research Center for Tohoku Region) having improved tastes.

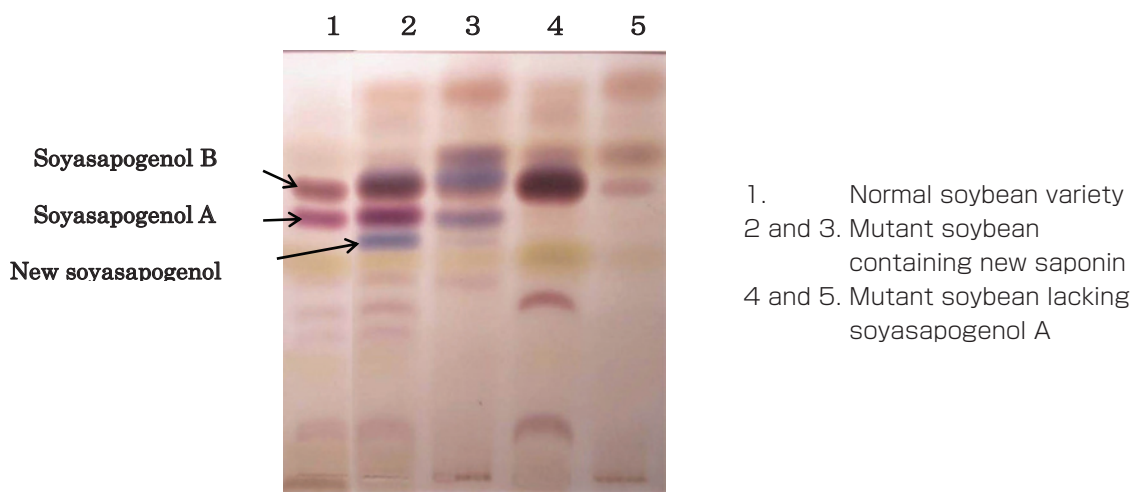


Fig. Example of mutant soybeans for saponin composition

What are its applications?

The technology can be applied to the development of material soybeans for the production of soymilk, tofu, fermented soybeans, edamame, etc. that contribute to prevent chronic diseases and increase favorable taste characteristics.

Related patents	Japanese Patent Application Laid-Open No. 2003-274885 (P2003-274885A)
Related materials	1. Proceedings of ISPUC-IV, Brazil, pp. 822-829 (2004). 2. Soy & Health Conference 2006, Germany, Poster 14 (2006).