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Determination and efficient extraction of the taste-improving components in soybean seeds

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In many Asian countries including Japan, various types of 'soy-products', such as miso, soy sauce, and soymilk, have a long history. Miso and soy sauce are produced by fermentation, and especially soy sauce is now prevailed world-widely. On the other hand, in Japan, roasted soybean seeds are used to make soup stocks. In this case, soybean soup stock itself is almost tasteless, but the savory taste is strongly increased by combining with other soup stocks made from dried kelp or mushrooms which contain glutamic acid or guanylic acid and showed umami taste. Recently, soymilk has also been widely used as a taste (flavor) enhancer, especially in 'Japanese *Nabe* (hot pot cooking)' and many kinds of soup. These 'soy-foods' show taste-improving effects, for example, enhance thickness, continuity, and mouthfulness in food products. These effects were defined as 'kokumi' taste, which was distinct from the five basic tastes. Although many taste-improving components are found out from various materials, no data are available about the taste-improving components of soymilk or soybean. In this study, to isolate and extract efficiency the key contributors to taste-improving effects in soybean, we applied sensory-guided fractionation and taste sensory analysis using soybeans processed under a certain condition. Some components were demonstrated to have taste-improving ability. This indicates the possibility that soybean extract or soy milk is used as enhancer of 'kokumi' taste sensation in food products.