

Biological Activity of *Antheraea pernyi* and *Antheraea yamamai* Silk Fibroin Fractions

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Antheraea pernyi and *Antheraea yamamai* cocoons was used to extract wild silk fibroin fractions by treatment of inorganic acid. Fractionated wild silk fibroins were characterized by various instrumental analysis including gel permeation chromatography, differential scanning calorimetry, and infrared spectrometry. The biological effect of characterized wild silk fibroin fractions was examined using ICR mice on the blood glucose level, glucose tolerance, body weight, and so on. Wild silk fibroin fractions showed that they have a good glucose tolerance effect in the ICR mice, meaning that wild silk fibroin fractions are one of useful materials to apply hyperglycemia. To evaluate the effect of wild silk fibroin fraction on the hyperglycemia, hyperglycemic ICR mice induced by STZ injection was treated with extracted wild silk fibroin fraction. Electronic desalting fraction and fraction B produced by gel filtration chromatography showed good blood glucose lowering effect. From the above results, wild silk fibroin fractions might be one of possible candidate for human hyperglycemia.