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Cerebral Blood Flow, Cognitive Improvement and Against Hydrogen Peroxide Toxicity Effects by *B. mori* Fractioned Extracted Component

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Fractionated components of Bombyx mori silk fibroin, which were hydrolyzed with protease, were prepared by preparative recycling HPLC system in order to evaluate the protective effects of molecular weight-controlled B. mori silk fibroin components on H_2O_2-injured neuronal cell. Three major fractions having molecular weight less than about 1500 could be first collected using the above recycling techniques. The highest protective effect of molecular controlled B. mori silk fibroin components on H_2O_2-injured neuronal cell was obtained when the fraction having molecular weight around 1500 was used. On the other hand, we carried out to investigate whether BF-7, extracted from *Bombyx mori*, improved learning and memory of ordinary people, K-WAIS (Korean version of Wechsler adult intelligence scale) was performed in 4 normal students. To know how BF-7 plays such a positive role, we measured the blood flow to brain, especially for the area concerned with learning and memory, with Single Photon Emission Computed Tomography(SPECT). Our results showed that the blood flow to parahippocampal gyrus and medial temporal area was increased. Also, our results showed the image representing the increase of blood supply in this area. So, our results suggest that BF-7 effectively help to use brain concerning with learning and memory.