

Investigation on sea anemone protein as a novel silk material

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The extraordinary biocompatibility of silk protein is the strongest factor of being used as a novel texture for centuries. With this benefit, usage of silk reaches to the material industry and medical area. Property of silk protein is organism-dependent. To be specific, silk from spider is stronger and tougher than silkworm. The researches for silk protein have been mainly focused on spider and silkworm. In the present work, we investigated new silk-bearing marine organisms to figure out flesh property and possibility of novel silk protein to apply industries. We designed and constructed new silk-like protein (designated to 'aneroin') from sea anemone. With simple heat shock and acid purification process, we obtained recombinant aneroin successfully. We spun about 50–100 μ m of aneroin with no defects by wet spinning. In addition, electrospinning of aneroin was also conducted.