

‘Would you wear clothing, shoelaces or a belt made of muscle fibers?’ Microbe-made synthetic proteins might be stronger than Kevlar

Would you wear clothing or, say, shoelaces or a belt made of muscle fibers? What if those fibers could endure more energy before breaking than cotton, silk, nylon, or even Kevlar, and be produced without harm coming to any animals?

Researchers at the McKelvey School of Engineering at Washington University in St. Louis have [now developed a synthetic chemistry technology that could make this feasible](#). The method allows them to polymerize proteins inside of engineered microbes. Using the technology, the team engineered microbial production of the high molecular weight muscle protein, titin, which was then spun into fibers. Tests showed the fibers outperformed many synthetic and natural polymers.

“The beauty of the system is that it’s really a platform that can be applied anywhere,” said Cameron Sargent, a PhD student in the division of biological and biomedical sciences.

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Aside from its potential use in fancy clothes or protective armor, Sargent pointed out that the material could have biomedical applications as well. Because it’s nearly identical to the proteins found in muscle tissue, this synthetic material is presumably biocompatible and could therefore be a great material for sutures, tissue engineering, and so on.

[**This is an excerpt. Read the original post here.**](#)