



Hyperstable Collagen Mimics

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WARF: P03226US

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The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a novel, hyperstable collagen mimic.

Overview

Collagen, the most abundant protein in vertebrates, serves as the fundamental structural protein for vertebrate tissues. Collagen is a fibrous protein consisting of three polypeptide chains that fold into a triple helix. Many diseases including arthritis, atherosclerosis, rheumatism, osteoporosis and osteogenesis imperfecta are linked to collagen abnormalities.

The Invention

UW-Madison researchers have developed a novel, hyperstable collagen mimic. This new collagen mimic consists of a tripeptide unit with the formula (flpYaaGly)_n, where flp is 4(S)-fluoroproline, Yaa is any natural or modified amino acid residue, and n is a positive integer, preferably at least 7. The novel compound forms triple helices that are more stable than native collagen.

Applications

- Treating diseases associated with abnormal collagen, including arthritis, osteoporosis and osteogenesis imperfecta
- Developing new methods of wound healing
- May be useful as a component in artificial skin, a solder in tissue welding or a substitute for collagen in other applications requiring high strength

Key Benefits

- Forms a stronger and more stable triple helix than native collagen
- Provides a desirable alternative to collagen from cows, which might be contaminated by BSE (bovine spongiform encephalitis)
- Likely has a greater half-life *in vivo* than native collagen

Additional Information

Related Technologies

- [See WARF reference number P97135US for information on earlier collagen mimics created by the inventor.](#)

Publications

- [Click here for a news release describing this technology.](#)

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