

In vitro formation and thermal transition of novel hybrid fibrils from type I fish scale collagen and type I porcine collagen

Author Song Chen¹, Toshiyuki Ikoma², Nobuhiro Ogawa¹, Satoshi Migita¹, Hisatoshi Kobayashi¹ and Nobutaka Hanagata^{3,4}

Affiliations ¹ Biomaterials Center, National Institute for Materials Science, 1-2-1 Sengen, Tsukuba, Ibaraki 305-0047, Japan

² Department of Metallurgy and Ceramics Science, Tokyo Institute of Technology, O-okayama 2-12-1, Meguro-ku, Tokyo 152-8550, Japan

³ Nanotechnology Innovation Center, National Institute for Materials Science, 1-2-1 Sengen, Tsukuba, Ibaraki 305-0047, Japan

⁴ Graduate School of Life Science, Hokkaido University, N10W8, Kita-ku, Sapporo, Hokkaido 060-0812, Japan

E-mail HANAGATA.Nobutaka@nims.go.jp

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Abstract Novel type I collagen hybrid fibrils were fabricated by neutralizing a mixture of type I fish scale collagen solution and type I porcine collagen solution with a phosphate buffer saline at 28 °C. Their structure was discussed in terms of the volume ratio of fish/porcine collagen solution. Scanning electron and atomic force micrographs showed that the diameter of collagen fibrils derived from the collagen mixture was larger than those derived from each collagen, and all resultant fibrils exhibited a typical D-periodic unit of ~67 nm, irrespective of volume ratio of both collagens. Differential scanning calorimetry revealed only one endothermic peak for the fibrils derived from collagen mixture or from each collagen solution, indicating that the resultant collagen fibrils were hybrids of type I fish scale collagen and type I porcine collagen.

PACS [87.80.-y Biophysical techniques \(research methods\)](#)

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[87.15.Vv Diffusion](#)

[87.15.B- Structure of biomolecules](#)

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