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Volume Page

Keyword:    [TOP](#) > [Available Issues](#) > [Table of Contents](#) > [Abstract](#)

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[\[PDF \(276K\)\]](#) [\[References\]](#)**Synthetic Osteopontin-derived Peptide SVVYGLR can Induce Neovascularization in Artificial Bone Marrow Scaffold Biomaterials**

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**Abstract:**

We have previously reported that an osteopontin-derived SVVYGLR peptide exhibited potent angiogenic activity *in vitro* and *in vivo*. In the present study, the focus points were on the *in vitro* effect of SVVYGLR on bone marrow stromal cell proliferation, as well as its *in vivo* effect on bone tissue formation when grafts made of CO<sub>3</sub>Ap-collagen sponge—as a scaffold biomaterial containing the SVVYGLR motif—were implanted. SVVYGLR peptide promoted bone marrow stromal cell proliferation. When a CO<sub>3</sub>Ap-collagen sponge containing SVVYGLR peptide was implanted as a graft into a tissue defect created in rat tibia, the migration of numerous vascular endothelial cells—as well as prominent

angiogenesis—inside the graft could be detected after one week. These results thus suggested that our scaffold biomaterials including the peptide could be useful for bone tissue regeneration.

**Key words:**

[CO<sub>3</sub>Ap-collagen](#), [Bone marrow scaffold biomaterials](#), [SVVYGLR](#)



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