生体材料（陳　国平）
Biomaterials (CHEN Guoping)

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再生医療のための足場材料の開発

けがや病気などで失われた生体組織の再生に重要な細胞足場材料と細胞機能制御材料の研究開発を行っています。細胞足場材料として、生体吸収性合成高分子および天然高分子を用いて多孔質構造や力学強度などを制御した高分子多孔質材料および複合多孔質材料、細胞によって産生される細胞外マトリックスで構成され、ナノ・マイクロ構造をもつ生体親和性材料について研究しています。また、生体組織の再生に重要な幹細胞の機能を制御するため、機能性分子をマイクロパターン化した材料や、生体内の微小環境を模倣した細胞培養材料にも取り組んでいます。

Development of Scaffolds for Regenerative Medicine

We are devoted to the research of biodegradable scaffolds and functional biomaterials for tissue engineering of lost or damaged tissues and organs and for manipulation of cell functions. Porous scaffolds with well controlled pore structures, hybrid scaffolds of biodegradable synthetic polymers and naturally derived polymers and highly biocompatible matrix biomaterials with nano- and microstructures constructed from cultured cells are designed and prepared. Biomaterials that mimic the in vivo nano- and microenvironment surrounding cells and micro-patterned surfaces are created to manipulate cell functions, particularly stem cell functions.