

Principal Researcher	Masaharu Takigawa			Number of Researchers	8	
Research Institution • Department • Title	Professor, Dept. of Biochemistry and Molecular Dentistry, Graduate School of Medicine and Dentistry, Okayama University			Location of Institution	Okayama	
Title of Project	The role of CTGF as a novel tissue-regenerating factor, regenerin, and its application for medical and dental tissue engineering					
Abstract of Research Project	<p>Connective tissue growth factor/hypertrophic chondrocyte-specific gene product 24 (CTGF/Hcs24), the gene of which was cloned from a human chondrocytic cell line by our research group, is a member of the CCN gene family. We have suggested that the major physiological role of this factor is the promotion of the entire process of endochondral ossification. In this research project, we will clarify the role of CTGF in skeletal development in detail but also prove that CTGF functions as a regeneration-promoting factor for various tissues, i.e., as a putative “regenerin”. In other words, the possibility that CTGF can be used for regeneration of not only skeletal tissues but also various other tissues will be investigated. Moreover, for future clinical application as well as for gaining basic science information, the function-structure relationship between its multi-functions and typical structure composed of 4 modules will be also studied. Furthermore, the molecular mechanisms of gene expression, synthesis, secretion, and action of CTGF at sites of regeneration will be disclosed, and possible applications of the results for drug development and tissue engineering will be examined.</p>					
References	<p>1. Takigawa, M., Nakanishi, T., Kubota, S. and Nishida, T.: The role of CTGF/Hcs24/ecogenin in skeletal growth control. <i>J. Cell. Physiol.</i>, 194, 256-266, 2002.</p> <p>2. Nakanishi, T., Nishida, T., Shimo, T., Kobayashi, K., Kubo, T., Tamatani, T., Tezuka, K. and Takigawa, M.: Effects of CTGF/Hcs24, a product of a hypertrophic chondrocyte-specific gene, on the proliferation and differentiation of chondrocytes in culture. <i>Endocrinology</i>, 141, 264-273, 2000.</p>					
Term of Project	Fiscal years 2003-2007 . (5years)					
Budget Allocation (in thousand of yen)	FY2003	FY2004	FY2005	FY2006	FY2007	TOTAL
	21,300	19,400	20,000	19,200	11,200	91,100
Homepage Address	http://www.dent.okayama-u.ac.jp/seika/index_sc_j.html					