
CONTENTS

Preface		v
Introduction		ix
Contributors		xi
Chapter 1.	Expression of rhBMP-2 in <i>Escherichia coli</i> and Its Activity in Inducing Bone Formation <i>M. Zhao and D. Chen</i>	1
Chapter 2.	Induction of Osteogenic Potential of Fibroblasts by Transfection of rhBMP-2 <i>X. Si, L. Yang and Y. Jin</i>	19
Chapter 3.	BMPs, Collagen Matrices and Mesenchymal Stem Cells <i>J.A. Andrades and J. Becerra</i>	35
Chapter 4.	Determination of the Biological Activity of BMP in Cell Cultures Is Unreliable <i>M. Ulmanen, E. Birr, O. Hietala and T.S. Lindholm</i>	53
Chapter 5.	Influence of Inorganic Biomaterials on rhBMP-2 Effectiveness in Osteoblast Culture <i>M. Lewandowska-Szumiel and G. Benke</i>	62
Chapter 6.	Bone Induction by TGF- β in the Primate and Synergistic Interaction with BMP <i>U. Ripamonti and J.R. Tasker</i>	79

Chapter 7.	rhBMP-2 and Coral Composite Bone Substitute in Repair of Cranio-Maxillary Bone Defects <i>T.Q. Mao, S.L. Zhang, H.X. Wang, M. Zhao, F.L. Chen, Q. Ma and L. Han</i>	96
Chapter 8.	Different Configurations of Bioactive Silica Glass as Carrier for BMP <i>T.C. Lindholm</i>	110
Chapter 9.	Injectable Formulation of Biomaterials as Delivery System for BMP <i>T.J. Gao and H. Uludag</i>	125
Chapter 10.	Developing a Bioimplant of Coral and Extracted BMP for Clinical Use <i>T.S. Lindholm, O. Hietala, E. Birr and M. Ulmanen</i>	142
Chapter 11.	Exogenous and Endogenous OP-1 in Articular Cartilage <i>S. Chubinskaya and K.E. Kuettner</i>	157
Chapter 12.	Use of Recombinant Human OP-1 in Cartilage Repair — <i>In Vitro</i> and <i>In Vivo</i> Studies <i>I.C. Heyligers, J. Klein-Nulend and E.H. Burger</i>	184
Chapter 13.	BMPs in the Repair of Articular Cartilage Lesions: Experimental Studies and Clinical Application <i>A. Gigante, C. Chillemi and F. Greco</i>	204
Chapter 14.	Epithelial-Mesenchymal Interaction and Condensation Formation Regulated by BMPs in Palatogenesis and Pathogenesis of Cleft Palate <i>Y. Jin, H. Lu, X. Li and G.L. Tipoe</i>	224

Chapter 15.	Effect of BMP Around Dental Implant <i>K. Bessho and J.L. Ong</i>	234
Chapter 16.	Tissue Engineering with rhBMP-2: Bone Reconstruction in Implant Dentistry <i>U.M.E. Wikesjö, U. Hanisch and M.J. Danesh-Meyer</i>	245
Chapter 17.	Mandibular Reconstruction Using Naturally Derived BMPs: A Clinical Trial Report <i>U. Ripamonti and C. Ferretti</i>	277
Chapter 18.	BMPs in Oral Clinical Application <i>E. Lourenco</i>	290
Chapter 19.	Jaw Reconstruction with BMP, Collagen and Hydroxyapatite <i>K. Kusumoto and K. Bessho</i>	307
Chapter 20.	Use of Natural Bovine BMP in Cranio-Maxillofacial Surgery <i>H.F. Sailer and F.E. Weber</i>	329
Chapter 21.	rhBMP-7 in Maxillary Sinus Floor Grafting <i>J.P.A. van den Bergh, C.M. ten Bruggenkate and L.R. Giltaij</i>	339
Chapter 22.	BMPs Delivered in Skeletal Reconstruction — A Review <i>T.S. Lindholm</i>	353

Chapter 23.	The Use of OP-1 in Resistant Pseudoarthrosis: Eight Case Reports <i>G.H.G. Dekkers, S.H. Bulstra, N.H.M. Hoefnagels, R. Kuijer and R.G.T. Geesink</i>	385
Chapter 24.	A Review of 114 Challenging Orthopaedic Cases Treated with OP-1 <i>A. Shimmin</i>	411
Chapter 25.	Fractures of the Thoracolumbar Spine and Prospects of Consecutive Spinal Fusion Enhancement by Means of BMP <i>T.R. Blattert</i>	428
Chapter 26.	Human OP-1 as a Bone Graft Alternative for Posterolateral Lumbar Fusion <i>J.N. Grauer, T.C. Patel, J.S. Erulkar and M.M. Panjabi</i>	439