

Reinhard Gruber

Professor and Chair, Division of Oral Biology, Universitätszahnklinik Wien, Medical University of Vienna, Austria

Dr. nat. techn. Reinhard Gruber
Professor and Chair
Department of Oral Biology
School of Dentistry
Medical University of Vienna
Sensengasse 2a, A-1090 Vienna
Austria
Phone: +43 699 107 18 472
Email: reinhard.gruber@meduniwien.ac.at
Homepage: www.meduniwien.ac.at



Education, Positions, Tasks and Honors

Education

- 1995-1998 *Dr. nat. techn. 11. 12. 1998*; University of Natural Resources and Applied Life Sciences, Vienna, Austria (BOKU);
Doctoral thesis supervisor: Prof. M. Peterlik; Institute for General and Experimental Pathology, Medical University of
Vienna (MUW) & Prof. F. Rüker; Inst. for Applied Microbiology, BOKU.
- 1987-1995 *Dipl.-Ing. rer. nat. 2. 2. 1995*; BOKU, Diploma thesis supervisor: Prof. H. Lohninger; Institute for Medical Chemistry,
MUW & Prof. L. März; Institute for Biochemistry, BOKU.

Academic positions

- 2014 Full Professor (Oral Biology), Medical University of Vienna
2014 Associate Professor, University of Bern
2013 Associate Professor, MUW
2011 Assistant Professor, MUW
2004 Universitätsdozent, MUW
2008 Visiting Scholar, School of Dentistry (Prof. W. Giannobile), University of Michigan, MI, USA
2005, 2006 Visiting Scholar, Bone Tissue Engineering Center (Prof. J.O. Hollinger), Carnegie Mellon Uni., PA, USA
2002-2004 Assistant Professor ("Universitätsassistent"), Department of Oral Surgery (Prof. G. Watzek), MUW
1999-2002 Research Fellow, Department of Oral Surgery (Prof. G. Watzek), MUW
1999 Research Fellow, Department of Rheumatology (Prof. J. Smolen), MUW

Duties and tasks

- Since 2013 Board Member of the Osteology Foundation
Since 2012 Board Member of the German Society of Osteology
2012-2015 Head of the Laboratory of Oral Cell Biology, School of Dental Medicine, University of Bern, Switzerland
2012-2015 Person in charge for the safety of the School of Dental Medicine, University of Bern, Switzerland
2010-2013 Osteology Expert Councils, Curriculum Committee (www.osteology.org)
2011 Vice-director of the Curriculum Dentistry, MUW
2007-2011 Chair of the Quality Circle for diploma thesis (technical support and mentoring), BGZMK, MUW
2005-2011 Coordinator and initiator of a Doctoral Program at the MUW "*Bone and Joint Regeneration*"

Scientific impact, list of publications, and editorial work

Productivity and the apparent scientific impact

All Publications: <http://www.scopus.com> (Author ID: 7102883530)

Total Articles: 138
Total citations: 2006
h-index: 25
Last Updated: 10/2/2016

Reinhard Gruber

Professor and Chair, Division of Oral Biology, Universitätszahnklinik Wien, Medical University of Vienna, Austria

Peer-reviewed publications as First-, Last- and/or Corresponding author with Impact factor

1. Caballé-Serrano J, Sawada K, Bosshardt DD, Miron RJ, Buser D, Gruber R. Collagen barrier membranes adsorb growth factors liberated from autogenous bone chips. *Clin Oral Implants Res*, Epub
2. Caballé-Serrano J, Schuldt Filho G, Bosshardt DD, Gargallo-Albiol J, Buser D, Gruber R. Conditioned medium from fresh and demineralized bone enhances osteoclastogenesis in murine bone marrow cultures. *Clin Oral Implants Res*. Epub
3. Cvikl B, Lussi A, Moritz A, Sawada K, Gruber R. Differential inflammatory response of dental pulp explants and fibroblasts to saliva. *Int Endod J*. 2015 Jun 25. Epub
4. Kuchler U, Keibl C, Fügl A, Schwarze UY, Tangl S, Agis H, Gruber R. Dimethylxalylglycine lyophilized onto bone substitutes increase vessel area in rat calvarial defects. *Clin Oral Implants Res*. Epub
5. Müller HD, Cvikl B, Lussi A, Gruber R. Chemokine expression of oral fibroblasts and epithelial cells in response to artificial saliva. *Clinical Oral Investigations*. In print
6. Stähli A, Miron R, Bosshardt DD, Sculean A, Gruber R. (2016) Collagen membranes adsorb the TGF- β R1 kinase-dependent activity of enamel matrix derivative. *J Periodontol* 16:1-14.
7. Al Mustafa M, Agis H, Müller HD, Watzek G, Gruber R (2015) In vitro adhesion of fibroblastic cells to titanium alloy discs treated with sodium hydroxide. *Clin Oral Implants Res*. 26:15-9.
8. Brolese E, Buser D, Kuchler U, Schaller B, Gruber R. (2015) Human bone chips release of sclerostin and FGF-23 into the culture medium: an in vitro pilot study. *Clin Oral Implants Res*. 26:1211-4.
9. Caballé-Serrano J, Cvikl B, Bosshardt DD, Buser D, Lussi A, Gruber R (2015) Saliva suppresses osteoclastogenesis in murine bone marrow cultures. *J Dent Res*. 94:192-200.
10. Caballé-Serrano J, Sawada K, Schuldt Filho G, Bosshardt DD, Buser D, Gruber R. (2015) Bone Conditioned Medium: Preparation and Bioassay. *J Vis Exp*. 8; 101.
11. Cvikl B, Lussi A, Gruber R (2015) The in vitro impact of toothpaste extracts on cell viability. *Eur J Oral Sci* 123:179-85.
12. Cvikl B, Lussi A, Moritz A, Gruber R (2015) Salivary Pellicle vs Whole Saliva: The Response of Oral Fibroblasts Based on a Genome-Wide Microarray. *Int J Oral Maxillofac Implants*. 30:569-77.
13. Cvikl B, Lussi A, Moritz A, Sculean A, Gruber R (2015) Sterile-filtered saliva is a strong inducer of IL-6 and IL-8 in oral fibroblasts. *Clinical Oral Investigations* 19:385-99.
14. Filho GS, Caballé-Serrano J, Sawada K, Bosshardt DD, Bianchini MA, Buser D, Gruber R (2015) Conditioned medium of demineralized freeze-dried bone activates gene expression in periodontal fibroblasts in vitro. *J Periodontol* 86:827-34.
15. Fügl A, Gruber R, Agis H, Lzicar H, Keibl C, Schwarze UY, Dvorak G (2015) Alveolar bone regeneration in response to local application of calcitriol in vitamin D deficient rats. *J Clin Periodontol*. 42:96-103.
16. Gruber R, Stähli A, Miron RJ, Bosshardt DD, Sculean A (2015) Common target genes of palatal and gingival fibroblasts for EMD: the microarray approach. *J Periodontol Res*. 50:103-12.
17. Gruber R. Molecular and cellular basis of bone resorption (2015) *Wien Med Wochenschr*. 165:48-53
18. Peng J, Nemeč M, Brolese E, Bosshardt DD, Schaller B, Buser D, Gruber R. (2015) Bone-conditioned medium inhibits osteogenic and adipogenic differentiation of mesenchymal cells in vitro. *Clin Implant Dent Relat Res*. 17:938-49.
19. Rybaczek T, Tangl S, Dobsak T, Gruber R, Kuchler U. (2015) The Effect of Parathyroid Hormone on Osseointegration in Insulin-Treated Diabetic Rats. *Implant Dent*. 24:392-6.
20. Sawada K, Caballé-Serrano J, Bosshardt DD, Schaller B, Miron RJ, Buser D, Gruber R. (2015) Antiseptic solutions modulate the paracrine-like activity of bone chips: differential impact of chlorhexidine and sodium hypochlorite. *J Clin Periodontol*. 42:883-91.
21. Sawada K, Caballé-Serrano J, Schuldt Filho G, Bosshardt DD, Schaller B, Buser D, Gruber R (2015) Thermal processing of bone: in vitro response of mesenchymal cells to bone-conditioned medium. *Int J Oral Maxillofac Surg* 44:1060-6.
22. Zimmermann M, Caballé-Serrano J, Bosshardt DD, Ankersmit HJ, Buser D, Gruber R (2015) Bone-Conditioned Medium Changes Gene Expression in Bone-Derived Fibroblasts. *Int J Oral Maxillofac Implants*. 30:953-8.
23. Agis H, Hueber L, Pour Sadeghian N, Pensch M, Gruber R (2014) In vitro release kinetic of dimethylxalylglycine and l-mimosine from bovine bone mineral. *Arch Oral Biol*. 10:1024-1031.
24. Brolese E, Buser D, Schaller B, Gruber R (2014) In vitro cell viability tests on a composite graft containing alpha tricalcium phosphate, chondroitin sulfate and disodium succinate. *Journal of Hard Tissue Biology* 23:287-94
25. Caballé-Serrano J, Bosshardt DD, Buser D, Gruber R (2014) Proteomic analysis of porcine bone-conditioned medium. *Int J Oral Maxillofac Implants*. 29:1208-15.
26. Cvikl B, Dragic M, Franz A, Raabe M, Gruber R, Moritz A (2014) Long-term storage affects adhesion between titanium and zirconia using resin cements. *J Adhes Dent*. 16:459-64.
27. Cvikl B, Haubenberger-Präml G, Drabo P, Hagmann M, Gruber R, Moritz A, Nell A (2014) Migration background is associated with caries in Viennese school children, even if parents have received a higher education. *BMC Oral Health*. 9:14:51.
28. Cvikl B, Klimscha J, Holly M, Zeitlinger M, Gruber R, Moritz A (2014) Removal of fractured endodontic instruments using an Nd:YAG laser. *Quintessence Int*. 45:569-75.
29. Fügl A, Gasser H, Watzek G, Bucher A, Feierfeil J, Jürgens G, Watzek G, Hallström S, Gruber R (2014) S-nitroso albumin enhances bone formation in a rabbit calvaria model. *Int J Oral Maxillofac Surg* 43:381-6.
30. Gruber R, Roos G, Caballé-Serrano J, Miron R, Bosshardt DD, Sculean A (2014) TGF- β R1 kinase activity mediates Emdogain-stimulated in vitro osteoclastogenesis. *Clin Oral Investig*. 18:1639-46.
31. Kuchler U, Schmid C, Buser D, Gruber R (2014) The shape of a bone scraper: an in vitro pilot study using porcine bone chips. *Int J Oral Maxillofac Surg*. 43:879-82.

Reinhard Gruber

Professor and Chair, Division of Oral Biology, Universitätszahnklinik Wien, Medical University of Vienna, Austria

32. Kuchler U, Schwarze UY, Dobsak T, Heimel P, Bosshardt DD, Kneissel M, Gruber R (2014) Dental and periodontal phenotype in sclerostin knockout mice. *Int J Oral Sci.* 6:70-6.
33. Stähli A, Bosshardt D, Sculean A, Gruber R (2014) Emdogain-regulated gene expression in palatal fibroblasts requires TGF- β RI kinase signaling. *PLoS One.* 8;9(9):e105672.
34. Vasak C, Busenlechner D, Schwarze UY, Leitner HF, Munoz Guzon F, Hefti T, Schlottig F, Gruber R (2014) Early bone apposition to hydrophilic and hydrophobic titanium implant surfaces: a histologic and histomorphometric study in minipigs. *Clin Oral Implants Res.* 25:1378-85.
35. Agis H, Schröckmair S, Skoriansz C, Fischer MB, Watzek G, Gruber R (2013) Platelets increase while serum reduces the differentiation and activity of osteoclasts in vitro. *J Orthop Res.* 31:1561-9.
36. Cvikl B, Filipowitsch R, Wernisch J, Raabe M, Gruber R, Moritz A (2013) Immediate shear bond strengths of a composite, a compomer and a glass ionomer to a ceramic substrate. *J Adhes Dent.* 15:385-91.
37. Gruber R, Bosshardt DD, Miron RJ, Gemperli AC, Buser D, Sculean A (2013) Enamel matrix derivative inhibits adipocyte differentiation of 3T3-L1 cells via activation of TGF- β RI kinase activity. *PLoS One.* 12;8:e71046.
38. Gruber R, Leimer M, Fischer MB, Agis H (2013) Beta2-adrenergic receptor agonists reduce proliferation but not protein synthesis of periodontal fibroblasts stimulated with platelet-derived growth factor-BB. *Arch Oral Biol.* 58:1812-7.
39. Kuchler U, Luvizuto ER, Muñoz F, Hofbauer J, Watzek G, Gruber R (2013) Bone healing around titanium implants in two rat colitis models. *Clin Oral Implants Res.* 24:224-9.
40. Kuchler U, Pfungstner G, Busenlechner D, Dobsak T, Reich K, Heimel P, Gruber R (2013) Osteocyte lacunar density and area in newly formed bone of the augmented sinus. *Clin Oral Implants Res* 24:285-9.
41. Agis H, Watzek G, Gruber R (2012) Prolyl hydroxylase inhibitors increase the production of vascular endothelial growth factor by periodontal fibroblasts. *J Periodontol Res* 47:165-73.
42. Busenlechner D, Tangl S, Arnhart C, Redl H, Schuh C, Watzek G, Gruber R (2012) Resorption of deproteinized bovine bone mineral in a porcine calvaria augmentation model. *Clin Oral Implants Res* 23:95-9.
43. Dvorak G, Fügl A, Watzek G, Tangl S, Pokorny P, Gruber R (2012) Impact of dietary vitamin D on osseointegration in the ovariectomized rat. *Clin Oral Implants Res* 23:1308-1313.
44. Gruber R, Hedbome E, Bosshardt DD, Heuberger R, Buser D. (2012) Acid and alkali etching of grit blasted zirconia: impact on adhesion and osteogenic differentiation of MG63 cells in vitro. *Dental Material Journal* 31:1097-102
45. Cvikl B, Agis H, Stögerer K, Moritz A, Watzek G, Gruber R (2011). The response of dental pulp-derived cells to zoledronate depends on the experimental model. *Int Endod J* 44:33-40.
46. Dvorak G, Arnhart C, Heuberger S, Huber CD, Watzek G, Gruber R. (2011) Peri-implantitis and late implant failures in postmenopausal women: a cross-sectional study. *J Clin Periodontol*, 38:950-5.
47. Dvorak G, Reich K, Tangl S, Goldhahn H, Haas R, Gruber R (2011) Cortical porosity of the mandible in an osteoporotic sheep model *Clin Oral Implants Res* 22:500-5.
48. Fuegl A, Tangl S, Keibl C, Watzek G, Redl H, Gruber R (2011) The impact of ovariectomy and hyperglycemia on graft consolidation in rat calvaria *Clin Oral Implants Res* 22:524-9.
49. Kuchler U, Luvizuto ER, Tangl S, Watzek G, Gruber R (2011) Short-term teriparatide delivery and osseointegration: A clinical feasibility study. *J Dent Res*, 90:1001-6.
50. Kuchler U, Spilka T, Baron K, Tangl S, Watzek G, Gruber R (2011) Intermittent parathyroid hormone fails to stimulate osseointegration in diabetic rats *Clin Oral Implants Res*, 22:518-23.
51. Luvizuto ER, Tangl S, Zanoni G, Okamoto T, Sonoda CK, Gruber R, Okamoto R (2011) The effect of BMP-2 on the osteoconductive properties of β -tricalcium phosphate in rat calvaria defects. *Biomaterials*, 32:3855-61.
52. Agis H, Beirer B, Watzek G, Gruber R (2010) Effects of carboxymethylcellulose and hydroxypropylmethylcellulose on the differentiation and activity of osteoclasts and osteoblasts. *J Biomed Mater Res A* 95:504-9.
53. Agis H, Magdalenko M, Watzek G, Gruber R (2010) Collagen barrier membranes decrease osteoclastogenesis in murine bone marrow cultures. *Clin Oral Implants Res* 21:656-61.
54. Glösel B, Kuchler U, Watzek G, Gruber R (2010) A review of dental implant rat research models simulating osteoporosis or diabetes. *Int J Oral Maxillofac Implants* 25:516-24.
55. Agis H, Blei J, Watzek G, Gruber R (2009) Is zoledronate toxic to human periodontal fibroblasts? *J Dent Res* 89: 40-5.
56. Agis H, Stampfl B, Watzek G, Gruber R (2009) Activated platelets increase proliferation and protein synthesis of human dental pulp derived cells. *Int Endod J* 43: 115-24.
57. Agis H, Kandler B, Fischer MB, Watzek G, Gruber R (2009) Activated platelets increase fibrinolysis of mesenchymal progenitor cells. *J Orthop Res* 27: 972-80.
58. Busenlechner D, Tangl S, Fitzl B, Bernhart T, Gruber R, Watzek G (2009) Past-like inorganic bone matrix: preclinical testing of a prototype preparation in the porcine calvaria. *Clin Oral Implants Res* 20(10): 1099-104.
59. Busenlechner D, Huber CD, Vasak C, Dobsak A, Gruber R, Watzek G (2009) Sinus augmentation analysis revised: the gradient of graft consolidation. *Clin Oral Implants Res* 20(10): 1078-83.
60. Dvorak G, Reich K, Tangl S, Lill CA, Gottschalk-Baron M, Watzek G, Gruber R, Haas R (2009) Periodontal histomorphometry and status of aged sheep subjected to ovariectomy, malnutrition and glucocorticoid application. *Arch Oral Biol* 54(9): 857-63.
61. Fuegl A, Tangl S, Vasak C, Gruber R, Watzek G (2009) Long-term effects of magnetron-sputtered calcium phosphate coating on osseointegration of dental implants in non-human primates. *Clin Oral Implants Res* 20(2): 183-8.
62. Gruber R, Nadir J, Haas R (2009) Neutrophil elastase activity and interleukin-1 beta in the crevicular fluid of immediate loaded implants. *British Journal of Oral & Maxillofacial Surgery* 48(3): 228-31.

Reinhard Gruber

Professor and Chair, Division of Oral Biology, Universitätszahnklinik Wien, Medical University of Vienna, Austria

63. Mair B, Tangl S, Feierfeil J, Skiba D, Watzek G, Gruber R (2009) Age-related efficacy of parathyroid hormone on osseointegration in the rat. *Clin Oral Implants Res* 20(4): 400-5.
64. Rameis MT, Cei S, Bernardi J, Watzek G, Gruber R (2009) Development of an in vitro model on cellular adhesion on granular natural bone mineral under dynamic seeding conditions-A pilot study. *J Biomed Mater Res B Appl Biomater* 91(2):766-71.
65. Agis H, Bauer M, Knebl G, Watzek G, Gruber R (2008) Effects of platelet-derived growth factor isoforms on plasminogen activation by periodontal ligament and gingival fibroblasts. *J Periodontol Res* 43(3): 334-42.
66. Busenlechner D, Tangl S, Mair B, Fugger G, Gruber R, Redl H, Watzek G (2008) Simultaneous in vivo comparison of bone substitutes in a guided bone regeneration model. *Biomaterials* 29(22): 3195-200.
67. Dvorak G, Gruber R, Huber CD, Goldhahn J, Zanoni G, Salaberger D, Watzek G, Haas R (2008) Trabecular bone structures in the edentulous diastema of osteoporotic sheep. *J Dent Res* 87(9): 866-70.
68. Gruber R, Kandler B, Agis H, Fischer MB, Watzek G (2008) Bone cell responsiveness to growth and differentiation factors under hypoxia in vitro. *Int J Oral Maxillofac Implants* 23(3): 417-26.
69. Krauth MT, Fugl A, Gruber R (2008) [Bisphosphonate-associated osteonecrosis of the jaw]. *Wien Klin Wochenschr* 120(15-16): 467-76.
70. Mair B, Fuerst G, Kubitzky P, Tangl S, Bergmeister H, Losert U, Watzek G, Gruber R (2007) The anti-angiogenic substance TNP-470 impairs peri-implant bone formation: a pilot study in the rabbit metaphysis model. *Clin Oral Implants Res* 18(3): 370-5.
71. Sarajlic J, Agis H, Kandler B, Watzek G, Gruber R (2007) Plasminogen activation by fibroblasts from periodontal ligament and gingiva is not directly affected by chemokines in vitro. *Arch Oral Biol* 52(7): 663-8.
72. Weicht B, Maitz P, Kandler B, Fischer MB, Watzek G, Gruber R (2007) Activated platelets positively regulate RANKL-mediated osteoclast differentiation. *J Cell Biochem* 102(5): 1300-7.
73. Cei S, Kandler B, Fugl A, Gabriele M, Hollinger JO, Watzek G, Gruber R (2006) Bone marrow stromal cells of young and adult rats respond similarly to platelet-released supernatant and bone morphogenetic protein-6 in vitro. *J Periodontol* 77(4): 699-706.
74. Cei S, Mair B, Kandler B, Gabriele M, Watzek G, Gruber R (2006) Age-related changes of cell outgrowth from rat calvarial and mandibular bone in vitro. *J Craniomaxillofac Surg* 34(7): 387-94.
75. Gruber R, Kandler B, Fischer MB, Watzek G (2006) Osteogenic differentiation induced by bone morphogenetic proteins can be suppressed by platelet-released supernatant in vitro. *Clin Oral Implants Res* 17(2): 188-93.
76. Gruber R, Koch H, Doll BA, Tegtmeyer F, Einhorn TA, Hollinger JO (2006) Fracture healing in the elderly patient. *Exp Gerontol* 41(11): 1080-93.
77. Maitz P, Kandler B, Fischer MB, Watzek G, Gruber R (2006) Activated platelets retain their potential to induce osteoclast-like cell formation in murine bone marrow cultures. *Platelets* 17(7): 477-83.
78. Monov G, Strbac GD, Baron M, Kandler B, Watzek G, Gruber R (2006) Soluble RANKL in crevicular fluid of dental implants: a pilot study. *Clin Implant Dent Relat Res* 8(3): 135-41.
79. Strbac GD, Monov G, Cei S, Kandler B, Watzek G, Gruber R (2006) Cathepsin K levels in the crevicular fluid of dental implants: a pilot study. *J Clin Periodontol* 33(4): 302-8.
80. Gruber R, Baron M, Busenlechner D, Kandler B, Fuerst G, Watzek G (2005) Proliferation and osteogenic differentiation of cells from cortical bone cylinders, bone particles from mill, and drilling dust. *J Oral Maxillofac Surg* 63(2): 238-43.
81. Gruber R, Kandler B, Holzmann P, Vogele-Kadletz M, Losert U, Fischer MB, Watzek G (2005) Bone marrow stromal cells can provide a local environment that favors migration and formation of tubular structures of endothelial cells. *Tissue Eng* 11(5-6): 896-903.
82. Kandler B, Maitz P, Fischer MB, Watzek G, Gruber R (2005) Platelets can neutralize hydrogen peroxide in an acute toxicity model with cells involved in granulation tissue formation. *Bone* 36(4): 671-7.
83. Gruber R, Jindra C, Kandler B, Watzek G, Fischer MB, Watzek G (2004) Proliferation of dental pulp fibroblasts in response to thrombin involves mitogen-activated protein kinase signalling. *Int Endod J* 37(2): 145-50.
84. Gruber R, Kandler B, Fuerst G, Fischer MB, Watzek G (2004) Porcine sinus mucosa holds cells that respond to bone morphogenetic protein (BMP)-6 and BMP-7 with increased osteogenic differentiation in vitro. *Clin Oral Implants Res* 15(5): 575-80.
85. Gruber R, Kandler B, Jindra C, Watzek G, Watzek G (2004) Dental pulp fibroblasts contain target cells for lysophosphatidic Acid. *J Dent Res* 83(6): 491-5.
86. Gruber R, Karreth F, Kandler B, Fuerst G, Rot A, Fischer MB, Watzek G (2004) Platelet-released supernatants increase migration and proliferation, and decrease osteogenic differentiation of bone marrow-derived mesenchymal progenitor cells under in vitro conditions. *Platelets* 15(1): 29-35.
87. Kandler B, Fischer MB, Watzek G, Gruber R (2004) Platelet-released supernatant increases matrix metalloproteinase-2 production, migration, proliferation, and tube formation of human umbilical vascular endothelial cells. *J Periodontol* 75(9): 1255-61.
88. Gruber R, Graninger W, Bobacz K, Watzek G, Erlacher L (2003) BMP-6-induced osteogenic differentiation of mesenchymal cell lines is not modulated by sex steroids and resveratrol. *Cytokine* 23(4-5): 133-7.
89. Gruber R, Karreth F, Frommlet F, Fischer MB, Watzek G (2003) Platelets are mitogenic for periosteum-derived cells. *J Orthop Res* 21(5): 941-8.
90. Gruber R, Schofnagl M, Karreth F, Fischer MB, Watzek G (2003) The stable analog carbocyclic TXA2 but not platelet-released TXA2 induces osteoclast-like cell formation. *Prostaglandins Leukot Essent Fatty Acids* 68(4): 267-72.
91. Gruber R, Karreth F, Fischer MB, Watzek G (2002) Platelet-released supernatants stimulate formation of osteoclast-like cells through a prostaglandin/RANKL-dependent mechanism. *Bone* 30(5): 726-32.

Reinhard Gruber

Professor and Chair, Division of Oral Biology, Universitätszahnklinik Wien, Medical University of Vienna, Austria

92. Gruber R, Varga F, Fischer MB, Watzek G (2002) Platelets stimulate proliferation of bone cells: involvement of platelet-derived growth factor, microparticles and membranes. *Clin Oral Implants Res* 13(5): 529-35.
93. Gruber R, Mayer C, Bobacz K, Krauth MT, Graninger W, Luyten FP, Erlacher L (2001) Effects of cartilage-derived morphogenetic proteins and osteogenic protein-1 on osteochondrogenic differentiation of periosteum-derived cells. *Endocrinology* 142(5): 2087-94.
94. Gruber R, Mayer C, Schulz W, Graninger W, Peterlik M, Watzek G, Luyten FP, Erlacher L (2000) Stimulatory effects of cartilage-derived morphogenetic proteins 1 and 2 on osteogenic differentiation of bone marrow stromal cells. *Cytokine* 12:1630-8.
95. Gruber R, Nothegger G, Ho GM, Willheim M, Peterlik M (2000) Differential stimulation by PGE(2) and calcemic hormones of IL-6 in stromal/osteoblastic cells. *Biochem Biophys Res Commun* 270: 1080-5.
96. Gruber R, Czerwenka K, Wolf F, Ho GM, Willheim M, Peterlik M (1999) Expression of the vitamin D receptor, of estrogen and thyroid hormone receptor alpha- and beta-isoforms, and of the androgen receptor in cultures of native mouse bone marrow and of stromal/osteoblastic cells. *Bone* 24:465-73.
97. Schiller C*, Gruber R*, Ho GM, Redlich K, Guber HJ, Katzgraber F, Willheim M, Hoffmann O, Pietschmann P, Peterlik M (1998) Interaction of triiodothyronine with 1alpha,25-dihydroxyvitamin D3 on interleukin-6-dependent osteoclast-like cell formation in mouse bone marrow cell cultures. *Bone* 22(4): 341-6. (*equally contributed)
98. Schiller C*, Gruber R*, Redlich K, Ho GM, Katzgraber F, Willheim M, Pietschmann P, Peterlik M (1997) 17Beta-estradiol antagonizes effects of 1alpha,25-dihydroxyvitamin D3 on interleukin-6 production and osteoclast-like cell formation in mouse bone marrow primary cultures. *Endocrinology* 138(11): 4567-71. (*equally contributed)

Peer-reviewed publications as Co-author with impact factor

99. Kuchler U, Chappuis V, Bornstein MM, Siewczyk M, Gruber R, Maestre L, Buser D. Development of Implant Stability Quotient values of implants placed with simultaneous sinus floor elevation - results of a prospective study with 109 implants. *Clin Oral Implants Res*. 2016 Epub
100. Kuchler U, Chappuis V, Gruber R, Lang NP, Salvi GE. Immediate implant placement with simultaneous guided bone regeneration in the esthetic zone: 10-year clinical and radiographic outcomes. *Clin Oral Implants Res*. 2015 Epub
101. Miron RJ, Sculean A, Shuang Y, Bosshardt DD, Gruber R, Buser D, Chandad F, Zhang Y. Osteoinductive potential of a novel biphasic calcium phosphate bone graft in comparison with autographs, xenografts, and DFDBA. *Clin Oral Implants Res*. 2015 Epub
102. Cvikl B, Janjić K, Nürnberger S, Moritz A, Gruber R, Agis H. (2015) Effects of the prolyl hydroxylase inhibitor L-mimosine on the dental pulp in the presence of advanced glycation endproducts. *J Endod*. 41(11):1852-61.
103. Fülgl A, Gruber R, Agis H, Lzicar H, Keibl C, Schwarze UY, Dvorak G (2015) Alveolar bone regeneration in response to local application of calcitriol in vitamin D deficient rats. *J Clin Periodontol*. 42:96-103.
104. Müller HD, Jensen SS, Gruber R, Buser D, Bosshardt DD. (2015) Osteoclast-like cells on deproteinized bovine bone mineral and biphasic calcium phosphate: light and transmission electron microscopical observations. *Clin Oral Implants Res* 26:859-64
105. Queiroz TP, Aguiar SC, Margonar R, de Souza Faloni AP, Gruber R, Luvizuto ER. (2015) Clinical study on survival rate of short implants placed in the posterior mandibular region: resonance frequency analysis. *Clin Oral Implants Res*. 26:1036-42.
106. Saulacic N, Bosshardt DD, Jensen SS, Miron RJ, Gruber R, Buser D. Impact of bone graft harvesting techniques on bone formation and graft resorption: a histomorphometric study in the mandibles of minipigs. *Clin Oral Implants Res*. Epub
107. Trimmel K, Cvikl B, Müller HD, Nürnberger S, Gruber R, Moritz A, Agis H (2015) L-mimosine increases the production of vascular endothelial growth factor in human tooth slice organ culture model. *Int Endod J*. 48:252-60.
108. Vinzenz P, Schröckmair S, Gruber R, Agis H. Bone substitute materials supplemented with prolyl hydroxylase inhibitors decrease osteoclastogenesis in vitro. *J Biomed Mater Res B Appl Biomater*. Epub.
109. Ivanovic A, Bosshardt DD, Mihatovic I, Schwarz F, Gruber R, Sculean A (2014) Effect of pulverized natural bone mineral on regeneration of three-wall intrabony defects. A preclinical study. *Clin Oral Investig*. 18:1319-28.
110. Jensen SS, Bosshardt DD, Gruber R, Buser D (2014) Long-term stability of contour augmentation in the esthetic zone: histologic and histomorphometric evaluation of 12 human biopsies 14 to 80 months after augmentation. *J Periodontol*. 85:1549-56.
111. Miron RJ, Bosshardt DD, Gemperli AC, Dard M, Buser D, Gruber R, Sculean A (2014) In vitro characterization of a synthetic calcium phosphate bone graft on periodontal ligament cell and osteoblast behavior and its combination with an enamel matrix derivative. *Clin Oral Investig*. 18:443-51.
112. Monea A, Gruber R, Elod N, Beresescu G, Moldovan C, Monea M (2014) Saliva and serum levels of TNF and IL-6 in a sample of Romanian adult subjects with type 2 diabetes mellitus and periodontal disease. *European Scientific Journal* 10:350-359.
113. Saulacic N, Erdösi R, Bosshardt DD, Gruber R, Buser D (2014) Acid and alkaline etching of sandblasted zirconia implants: a histomorphometric study in miniature pigs. *Clin Implant Dent Relat Res*. 16:313-22.
114. Sculean A, Gruber R, Bosshardt DD (2014) Soft tissue wound healing around teeth and dental implants. *J Clin Periodontol*. 41 Suppl 15:S6-S22.
115. Wehner C, Gruber R, Agis H (2014) L-mimosine and dimethylxaloylglycine decrease plasminogen activation in periodontal fibroblasts. *J Periodontol*. 85:627-35.
116. Cvikl B, Filipowitsch R, Wernisch J, Raabe M, Gruber R, Moritz A (2013) Immediate shear bond strengths of a composite, a compomer and a glass ionomer to a ceramic substrate. *J Adhes Dent*. 15:385-91.
117. Miron RJ, Bosshardt DD, Laugisch O, Dard M, Gemperli MC, Buser D, Gruber R, Sculean A (2013) In vitro evaluation of demineralized freeze-dried bone allograft in combination with enamel matrix derivative. *J Periodontol* 84:1646-54.

Reinhard Gruber

Professor and Chair, Division of Oral Biology, Universitätszahnklinik Wien, Medical University of Vienna, Austria

118. Miron RJ, Gruber R, Hedbom E, Saulacic N, Zhang Y, Sculean A, Bosshardt DD, Buser D (2013) Impact of bone harvesting techniques on cell viability and the release of growth factors of autografts. *Clin Implant Dent Relat Res.* 15:481-9.
119. Bertl MH, Weinberger T, Schwarz K, Gruber R, Crismani AG (2012) Resonance frequency analysis: a new diagnostic tool for dental ankylosis. *Eur J Oral Sci.* 120:255-8.
120. Müller HD, Gruber R, Watzek G, Agis H (2012) Prolyl hydroxylase inhibitors increase the production of vascular endothelial growth factor in human dental pulp cells accepted in *Journal of Endodontics* 38:1498-503.
121. Wutzl A, Gruber R, Brozek W, Hofbauer G, Lernbass I, Brosch S, Pietschmann P (2010) Mechanisms involved in the inhibition of osteoclast generation by the benzothioephene SERM LY117018. *Wien Klin Wochenschr* 122(21-22):626-32.
122. Pellegrini G, Seol YJ, Gruber R, Giannobile W (2009) Preclinical models for oral and periodontal reconstructive therapies (review); *J Dental Res* 88(12): 1065-76.
123. Fuerst G, Strbac GD, Vasak C, Tangl S, Leber J, Gahleitner A, Gruber R, Watzek G (2009) Are culture-expanded autogenous bone cells a clinically reliable option for sinus grafting? *Clin Oral Implants Res* 20(2): 135-9.
124. Crismani AG, Bernhart T, Tangl S, Celar AG, Fugger G, Gruber R, Bantleon HP, Watzek G (2008) Osseointegration of a subperiosteal anchoring device in the minipig mandible. *Am J Orthod Dentofacial Orthop* 133(5): 743-7.
125. Leitner GC, Gruber R, Neumuller J, Wagner A, Kloimstein P, Hocker P, Kormoczi GF, Buchta C (2006) Platelet content and growth factor release in platelet-rich plasma: a comparison of four different systems. *Vox Sang* 91(2): 135-9.
126. Watzek G, Zechner W, Busenlechner D, Arnhart C, Gruber R, Watzek G (2006) Radiological and clinical follow-up of machined- and anodized-surface implants after mean functional loading for 33 months. *Clin Oral Implants Res* 17(6): 651-7.
127. Fuerst G, Gruber R, Tangl S, Sanroman F, Watzek G (2004) Effects of fibrin sealant protein concentrate with and without platelet-released growth factors on bony healing of cortical mandibular defects. An experimental study in minipigs. *Clin Oral Implants Res* 15(3): 301-7.
128. Fuerst G, Gruber R, Tangl S, Mittlbock M, Sanroman F, Watzek G (2004) Effect of platelet-released growth factors and collagen type I on osseous regeneration of mandibular defects. A pilot study in minipigs. *J Clin Periodontol* 31(9): 784-90.
129. Fuerst G, Tangl S, Gruber R, Gahleitner A, Sanroman F, Watzek G (2004) Bone formation following sinus grafting with autogenous bone-derived cells and bovine bone mineral in minipigs: preliminary findings. *Clin Oral Implants Res* 15(6): 733-40.
130. Bobacz K, Gruber R, Soleiman A, Erlacher L, Smolen JS, Graninger WB (2003) Expression of bone morphogenetic protein 6 in healthy and osteoarthritic human articular chondrocytes and stimulation of matrix synthesis in vitro. *Arthritis Rheum* 48(9): 2501-8.
131. Fuerst G, Gruber R, Tangl S, Sanroman F, Watzek G (2003) Enhanced bone-to-implant contact by platelet-released growth factors in mandibular cortical bone: a histomorphometric study in minipigs. *Int J Oral Maxillofac Implants* 18(5): 685-90.
132. Fuerst G, Gruber R, Tangl S, Zechner W, Haas R, Mailath G, Sanroman F, Watzek G (2003) Sinus grafting with autogenous platelet-rich plasma and bovine hydroxyapatite. A histomorphometric study in minipigs. *Clin Oral Implants Res* 14(4): 500-8.
133. Bobacz K, Gruber R, Soleiman A, Graninger WB, Luyten FP, Erlacher L (2002) Cartilage-derived morphogenetic protein-1 and -2 are endogenously expressed in healthy and osteoarthritic human articular chondrocytes and stimulate matrix synthesis. *Osteoarthritis Cartilage* 10(5): 394-401.
134. Willheim M, Thien R, Schratlbauer K, Bajna E, Holub M, Gruber R, Baier K, Pietschmann P, Reinisch W, Scheiner O, Peterlik M (1999) Regulatory effects of 1 α ,25-dihydroxyvitamin D3 on the cytokine production of human peripheral blood lymphocytes. *J Clin Endocrinol Metab* 84(10): 3739-44.
135. Leis HJ, Hulla W, Gruber R, Huber E, Zach D, Gleispach H, Windischhofer W (1997) Phenotypic heterogeneity of osteoblast-like MC3T3-E1 cells: changes of bradykinin-induced prostaglandin E2 production during osteoblast maturation. *J Bone Miner Res* 12(4): 541-51.

Book chapters

1. Gruber R, Bosshardt DD: Dental Implantology and Implants – Basic aspects and tissue interface, in *Stem Cell Biology and Tissue Engineering in Dental Science*. Elsevier, Inc. (2015)
2. Gruber R: Bone Tissue Engineering, in Pietschmann "Bone and Joint Research" in print
3. Gruber R: Basic principles of sinus augmentation, in Watzek G; *Percrestal sinus augmentation*, Quintessence Publishing Co., Inc. (2012)
4. Reich K, Tangl S, Busenlechner D, Gruber R: Insights into sinus augmentation: preclinical and clinical research, in Watzek G; *Percrestal sinus augmentation*, Quintessence Publishing Co., Inc. (2012)
5. Gruber R, Tangl S, Kuchler U: Compromised bone healing. ed. Giannobile W, Nevins M; *Osteology Preclinical Guidelines*, Quintessence Publish. Co., Inc. (2011)
6. Hollinger, JO, Srinivasan A, Alvarez P, Hsu E, McBride S, Eppell S, Baskin J, Waters H, Gruber R: Bone tissue engineering: Growth factors and cytokines, in *Comprehensive Biomaterial*, 5:281-301 (2011)
7. Gruber R: Zellbiologie des Knochens, ed. Pietschmann P.; *Zytokine und Biologicals in der Osteologie* UNI-MED Verlag AG (2009) 12-29.
8. Hollinger JO, Hart C, Gruber R, Doll B: PDGF and BMP in Periodontics and Orthopedics eds. Lynch SE, Genco R, Marx RE. *Tissue Engineering 2nd Edition, Applications in Maxillofacial Surgery*, Quintessence (2008) 3-25.
9. Gruber R, Pietschmann P, Peterlik M: Introduction to Bone Development, Remodelling & Repair; in *Radiology of Osteoporosis* eds. S. Grampp, Springer Verlag, (2008) 1-24.
10. Pietschmann P, Gruber R, Peterlik M: Pathophysiology and Aging of Bone; in *Radiology of Osteoporosis* eds. S. Grampp, Springer Verlag (2008) 25-42.

Reinhard Gruber

Professor and Chair, Division of Oral Biology, Universitätszahnklinik Wien, Medical University of Vienna, Austria

11. Watzek G, Fürst G, Gruber R: Basic principles of sinus grafting, Quintessence Publish. Co., Inc. (2006) 13-26.
12. Gruber R: Basic principles of bone remodeling and bone loss, in Watzek G; Implants in compromised bone, Quintessence Publishing Co., Inc. (2004) 9-28.
13. Gruber R, Fürst G: Experimental approaches in bone tissue engineering, in Watzek G; Implants in compromised bone, Quintessence Publishing Co., Inc. (2004) 95-112.
14. Pietschmann P, Gruber R, Peterlik M: Pathophysiology and Aging of Bone; in Radiology of Osteoporosis eds. S. Grampp, Springer Verlag (2002) 3-24.

Editorial work

Editor-in Chief

International Journal of Stomatology and Occlusion Medicine
Stomatologie

Associate Editor

International Journal of Oral & Maxillofacial Implants
BMC Oral Health

Editorial board

Journal of Dental Research
Clinical Oral Implants Research
Journal of Hard Tissue Biology