

## 2009 — NAKANO Takayoshi

### Scientific Papers/Commentary Articles

1. A. Sugino, C. Ohtsuki, K. Tsuru, S. Hayakawa, T. Nakano, Y. Okazaki and A. Osaka, Effect of spatial design and thermal oxidation on apatite formation on Ti-15Zr-4Ta-4Nb alloy, *Acta Biomaterialia*, 5, 928-934, 2009
2. K. Alvarez, S.-K. Hyun, T. Nakano, Y. Umakoshi and H. Nakajima, In vivo osteocompatibility of lotus-type porous nickel-free stainless steel in rats, *Materials Science and Engineering*, C29, 298-304, 2009
3. Y. Suzawa, T. Funaki, J. Watanabe, S. wai, Y. Yura, T. Nakano, Y. Umakoshi, and M. Akashi, Regenerative behavior of biomineral / agarose composite gels as bone grafting materials in rat cranial defects, *Journal of Biomedical Materials Research Part A*, 93A Issue 3 [6], 965-975, 2009
4. T. Nakano, W. Fujitani, T. Ishimoto and Y. Umakoshi, Adaptation of BAp crystal orientation to stress distribution in rat mandible during bone growth, *Journal of Physics, Conference Series*, 165, 012084, 2009
5. Y. Noyama, N. Nagayama, K. Kuramoto and T. Nakano, The optimal design of implant for improving bone quality in the implant surroundings based on stress analysis, *Journal of Physics, Conference Series*, 165, 012088, 2009
6. T. Ishimoto, T. Nakano, Y. Umakoshi, and Y. Tabata, Changes in Bone Microstructure and Toughness during Healing Process of Long Bone, *Journal of Physics, Conference Series*, 165, 012085, 2009
7. S.- H. Lee, K. Hagihara, M.- H. Oh and T. Nakano, Single-Crystal Growth and Plastic Deformation Behaviour of a Ti-15Mo-5Zr-3Al Alloy for Biomedical Application, *Journal of Physics, Conference Series*, 165, 012086, 2009
8. S. Miyabe, T. Ishimoto and T. Nakano, Preferential Orientation of Biological Apatite in Normal and Osteoporotic Human Vertebral Trabeculae, *Journal of Physics, Conference Series*, 165, 012087, 2009
9. T. Nagase, K. Kinoshita, T. Nakano and Y. Umakoshi, Fabrication of Ti-Zr Binary Metallic Wire by Arc-Melt Type Melt-Extraction Method, *Materials Transactions*, 50(4), 872-878, 2009
10. T. Ishimoto, T. Sakamoto and T. Nakano, Orientation of biological apatite in rat calvaria analyzed by microbeam X-ray diffractometer, *Materials Science Forum*, Vols.638-642, 576-581, 2010
11. J.-W. Lee, K. Kawahara and T. Nakano, Bone regeneration based on orientation of biological apatite (BAp) c-axis in osteopetrotic (op/op) mice, *Materials Science Forum*, Vols.638-642, 588-593, 2010

12. Y. Noyama, N. Nagayama, T. Ishimoto, K.Kuramoto, T. Sakai, H. Yoshikawa and T.Nakano, Stress simulation and related bone ingrowth in grooves on implant surface, *Materials Science Forum*, Vols.638-642, 664-669, 2010
13. N. Ichinohe, T. Nakano, T. Mitaka, Y.Umakoshi and Y. Tabata, Proliferation and osteogenic differentiation of rat bone-marrow stromal cells on bio-apatite with different crystalline facets, *Journal of Biomedical Materials Research Part A*, 93A Issue 2 [5], 646-655, 2009
14. A. Shiraishi, S. Miyabe, T. Nakano, Y.Umakoshi, M. Ito and M. Mihara, The combination therapy with alfacalcidol and risedronate improves the mechanical property in lumbar spine by affecting the material properties in an ovariectomized rat model of osteoporosis, *BMC Musculoskeletal Disorders (online journal)*, Vol.10, paper #66, 2009
15. M. Ueda, Y. Sasaki, M. Ikeda, M. Ogawa, W.Fujitani and T. Nakano, Chemical-hydrothermal synthesis of bioinert ZrO<sub>2</sub>-TiO<sub>2</sub> films on pure Ti substrates and proliferation of osteoblast-like cells, *Materials Transactions*, 50(9), 2147-2153, 2009
16. K. Hagihara, T. Tachibana, K.Sasaki, Y.Yoshida, N. Shirakawa, T. Nagasawa, T.Narushima and T. Nakano, Oxygen distribution in titanium single crystal fabricated by optical floating-zone method under extremely low oxygen partial pressure, *Materials Transactions*, 50(12), 2709-2715, 2009
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24. J. Sasaki, T. Matsumoto, H.Egusa, T.Nakano, T.Ishimoto, T. Sohmura and H.Yatani, In vitro engineering of transitional tissue of patterning and functional control of cells in fibrin gel, *Soft Matter*, Vol.6, 1162-1167, 2010
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  26. T. Ishimoto and T. Nakano, Evaluation of mechanical properties of regenerated bone by nanoindentation technique, *Materials Science Forum*, Vols.654-656, 2220-2224, 2010
  27. W. Fujitani and T. Nakano, Change in biological apatite orientation in beagle mandible, *Materials Science Forum*, Vols.654-656, 2216-2219, 2010

#### **International Conference Proceedings**

1. T. Sakamoto, T. Ishimoto and T. Nakano, Analysis and formation mechanism of biological apatite (BAP) orientation in a growing rat skull model, *PFAM18(Processing and Fabrication of Advanced Materials)*, 1365-1372, 2009
2. T. Nakano, T. Ishimoto, S.Miyabe and J.-W. Lee, Anisotropic Biological Apatite Orientation as a Bone Quality Parameter in Bone, *PFAM18(Processing and Fabrication of Advanced Materials)*, 1175-1184, 2009
3. K. Hagihara, M. Niinomi and T. Nakano, Controlling factors on the fatigue behaviour of Ti-Nb-Ta-Zr alloys single crystals, *PFAM18(Processing and Fabrication of Advanced Materials)*,1023-1030, 2009
4. T. Matsumoto, A. Mizuno, M.Okazaki, T. Nakano and T.Sohmura, Organic/inorganic composite material synthesized with osteoblastic cells, *Asian bioceramics Symposium*, 2009

#### **Publications**

1. T. Nakano (共著) , 「Metals for biomedical devices」 , Woodhead Publishing Ltd., 2010, 71-98