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### Effects of sintered apatite on bone regeneration in rabbits

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**Abstract** Apatite is considered to be effective for bone regeneration when it contains calcium carbonate and  $\beta$ -TCP. In the present study, we made 3 different apatite preparations, hydroxyapatite, hydroxyapatite containing calcium carbonate, and hydroxyapatite containing  $\beta$ -TCP, using spark plasma sintering and compared their abilities for osteoinduction. For elucidation of bone regeneration, evaluations are generally made after euthanasia of experimental animals. However, the present R\_mCT<sup>®</sup> procedure allowed such evaluations while the animals were alive. Our results showed that sintered HAP containing  $\beta$ -TCP was more effective for guided bone regeneration than the other test materials.

**Key words** Apatite, Bone regeneration, Calcium carbonate, Micro-CT,  $\beta$ -tricalcium phosphate ( $\beta$ -TCP)

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