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| Pubbl/distr/stampa      | Basel ; ; Boston, : Birkhauser, c2008  |
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| Edizione                | [1st ed. 2008.]  |
| Descrizione fisica      | 1 online resource (348 p.)   |
| Collana                 | Progress in inflammation research  |
| Altri autori (Persone)  | VukicevicSlobodan <1951-><br>SampathKuber T  |
| Disciplina              | 612.75<br>616.7/1061   |
| Soggetti                | Bone morphogenetic proteins<br>Bone morphogenetic proteins - Therapeutic use   |
| Lingua di pubblicazione | Inglese  |
| Formato                 | Materiale a stampa   |
| Livello bibliografico   | Monografia   |
| Note generali           | Description based upon print version of record.  |
| Nota di bibliografia    | Includes bibliographical references and index.   |
| Nota di contenuto       | Development of a novel compression-resistant carrier for recombinant human bone morphogenetic protein-2 (rhBMP-2) and preliminary clinical results -- Use of recombinant human BMP-2 in orthopedic trauma -- The application of recombinant human bone morphogenetic protein on absorbable collagen sponge (rhBMP-2/ACS) to reconstruction of maxillofacial bone defects -- Clinical outcomes using rhBMP-2 in spinal fusion applications -- Bone morphogenetic protein signaling is fine-tuned on multiple levels -- Dissection of bone morphogenetic protein signaling using genome-engineering tools -- Alterations of BMP signaling pathway(s) in skeletal diseases -- Signaling cross-talk by bone morphogenetic proteins -- The role and mechanisms of bone morphogenetic protein 4 and 2 (BMP-4 and BMP-2) in postnatal skeletal development -- The role of bone morphogenetic protein 4 (BMP-4) in tooth development -- Bone morphogenetic protein antagonists and kidney -- Induction of cementogenesis and periodontal ligament regeneration by the bone morphogenetic proteins -- Control of bone mass by sclerostin: |

Inhibiting BMP- and WNT-induced bone formation -- Bone morphogenetic proteins in cartilage biology -- Systemic administration of bone morphogenetic proteins.

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Sommario/riassunto

Tissue engineering is gaining interest as it is applied for regeneration of organs to attain their lost function. Although resorbable scaffolds and progenitor cell types are required principles to engineer a functional tissue locally, the inductive signal is a prerequisite to trigger the growth and differentiation of responding cells in space and time. Bone morphogenetic proteins (BMPs), also called growth and differentiation factors (GDFs), originally identified from bone have been successfully used to regenerate the bone in humans. Most recent preclinical data suggests that BMPs have a potential to provide protection against inflammation and fibrosis in acute and chronic injury of parenchymal tissues when applied systemically to sustain the function of kidney and liver. The application of BMPs from a local to systemic utility is a rapidly growing field, gaining interest among researchers and biotech entrepreneurs. In this volume, we summarize the advances made on the local and systemic use of BMPs including chapters covering the regulation of BMP-signalling pathways, biological actions of BMPs in bone, cartilage and teeth, as well as clinical applications and potential systemic use of BMPs for tissues beyond bone. This volume is of interest to researchers from immunology, cell biology, biochemistry, and clinicians from orthopedics and dentistry, as well as to research managers from biotech and pharmaceutical companies.

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