



Molecular and Cellular Mechanisms of Intervertebral Disc Disease

Guest Editor:

Dr. Hosni Cherif

1. The Orthopaedic Research Laboratory, Research Institute of the McGill University Health Centre, Montreal, QC, Canada
2. Department of Surgery, Division of Orthopaedics, McGill University, Montreal, QC, Canada
3. The McGill Scoliosis and Spine Group, McGill University Health Centre, Montreal, QC, Canada

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Message from the Guest Editor

This Special Issue aims to explore recent advancements and comprehensive reviews in intervertebral disc biology, particularly focusing on disc degeneration and aging. Research topics of interest include, but are not limited to, the following:

- Molecular mechanisms underlying disc degeneration, including cellular senescence, apoptosis, ferroptosis, necrosis, inflammation, and oxidative stress.
- Cellular processes such as ECM remodeling mediated by matrix metalloproteinases (MMPs) and their inhibitors.
- The role of cytokines and growth factors in disc health and disease.
- Mechanisms influencing disc aging, nutrition, and mechanical integrity.
- Biomarkers for assessing disc degeneration progression and therapeutic response.
- Advances in understanding disc herniation and potential strategies for disc regeneration.

Contributions exploring new therapeutic avenues, including molecular targets, regenerative approaches, and innovative diagnostic techniques, are encouraged. Additionally, studies utilizing animal models and clinical trials aimed at validating therapeutic strategies for disc degeneration are welcome.

We look forward to your valuable contributions to this Special Issue.





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Editor-in-Chief

Prof. Dr. Maurizio Battino

Department of
Odontostomatologic and
Specialized Clinical Sciences,
Sez-Biochimica, Faculty of
Medicine, Università Politecnica
delle Marche, Via Ranieri 65,
60100 Ancona, Italy

Message from the Editor-in-Chief

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*International Journal of Molecular
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MDPI, Grosspeteranlage 5
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