

Special Issue

Research on Epigenetics and 3D Genomes in Animal Breeding

Message from the Guest Editor

Epigenetic and 3D genomics have emerged as promising research areas in livestock breeding. Epigenetic modifications play important roles in the transcriptional regulation of and variations in economic traits. Elucidating the epigenetic mechanisms underlying gene expression regulation in livestock species could benefit the development of epigenetic markers and potential epigenetic therapies for improving animal productivity. The 3D structure of the genome also plays a crucial role in gene expression regulation. Advances in technologies such as Hi-C have allowed for the investigation of the spatial organization of the genome, revealing the potential impact of chromatin conformation on gene expression and complex trait variation. The study of the 3D genome in livestock species has the potential to uncover new mechanisms underlying complex traits and inform breeding strategies.

This Special Issue in *Genes* on “Research on Epigenetics and 3D Genomes in Animal Breeding” aims to highlight the latest research findings in epigenetic and 3D genome studies on livestock species.

Guest Editor

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Genes is central to our understanding of biology, and modern advances such as genomics and genome editing have maintained genetics as a vibrant, diverse and fast-moving field. There is a need for good quality, open access journals in this area, and the *Genes* team aims to provide expert manuscript handling, serious peer review, and rapid publication across the whole discipline of genetics. Starting in 2010, the journal is now well established and recognised. Why not consider *Genes* for your next genetics paper?

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