BioMed Research International

Hindawi

Special Issue on

Advances in Molecular Genetics and the Molecular Biology of Deafness

CALL FOR PAPERS

Recent advances in molecular genetics technologies notably next-generation sequencing (NGS) have drastically accelerated the identification of novel genes involved in hearing mechanism and expanded the mutational spectrum of known deafness-causing genes. In addition to NGS, recent progress in genome editing, embryonic stem cells, and induced pluripotent stem cells has opened a new gate to a fast and thorough characterization and understanding of the precise functions and mechanisms involved in the biology of hearing and deafness.

These state-of-the-art technologies have led to significant breakthroughs in the field of hearing research but they have also aroused new challenges in clinical interpretation of the extraordinary number of generated genomic variants, genotype-phenotype correlations, and ultimately its application to precision medicine.

This special issue provides a comprehensive overview of scientific research advances in molecular genetics and molecular biology of hearing and deafness. We solicit original research articles as well as review articles focused on the molecular genetic analysis of deafness and molecular biological analysis of hearing systems. We also intend to discuss the clinical application of genetic diagnosis to deafness and its backbone bioinformatics and basic sciences.

Potential topics include, but are not limited to:

- Clinical applications of NGS technology in deafness
- Novel gene identification using NGS technology (including targeted genome resequencing and whole exome sequencing)
- Bioinformatics underlying a precise molecular genetic diagnosis of deafness
- Copy number variations (CNVs) growing involvement in deafness
- Molecular biology of hearing and deafness
- Recent advances in the Stem cells based regeneration medicine of inner ear
- Viral vector based gene deliveries: current approaches and challenges
- Comprehensive clinical assessment of hearing impaired patients with rare disease-causing mutations
- Genotype-phenotype correlations and application in precision medicine

Authors can submit their manuscripts via the Manuscript Tracking System at http://mts.hindawi.com/submit/journals/bmri/otolaryngology/mgbd/.

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Manuscript Due
Friday, 29 January 2016

First Round of Reviews
Friday, 22 April 2016

Publication Date
Friday, 17 June 2016