

## Highlights in the Inaugural Issue of Human Brain

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This new journal *Human Brain* aims to bring together the knowledge from the entire span of neurological science and clinical neurology involved in studying the human brain. The journal's emphasis is to advance the understanding of human brain and brain disorders and develop collaborative research platforms and databases related to the human brain.

With the rapid growth of new energy technology, information technology, biotechnology, and medicine, human development has reached a new era. In the perspective of *A New Era of Human Brain Research*, Dr Jizong Zhao, our Honorary Editor-in-Chief, encourages both basic and clinical researchers to collaborate in depth and break the barriers from the bench to the bedside (Zhao, 2022). Researchers may integrate resources, including human brain banks and other resource platforms, to conquer the diseases that seriously threaten human health, such as AD, cerebrovascular diseases, and brain tumors, and eventually benefit human beings through human brain research. This is in line with the expectation of the *Human Brain*.

At present, since the leading study on the human brain, including its structure, function, and related diseases, is still insufficient, in the current issue, Liu *et al.* (2022) introduce the significance and everyday situations of the human brain tissue bank, and provide an overview of neurology or

neuroscience advances by using human brain samples. This review highlights the human brain bank as convergent neuroscience and neurological research platform.

Considering the fundamental role of human brain banks in brain research, a Standardized Operational Protocol (SOP) is essential, and the latest version has been drafted by experts from the China Human Brain Bank Consortium. In this context, Wang *et al.* (2022) specify the detailed introduction to this new version of SOP.

The mechanisms underlying age-related neurodegenerative diseases remain not well elucidated. In particular, population-based clinic-pathological studies may offer insight into mechanisms and therapeutic interventions in age-related diseases. Cao *et al.* (2022) review the findings from population-based pathological studies of brain aging and a series of neurodegenerative markers, which describe a better characterization of pathological brain changes.

One of this journal's key critical research areas is investigating the pathogenesis of human brain disorders, especially neurodegenerative diseases. Chen *et al.* (2022) summarize the advances of human brain proteomics in researching the most common neurodegenerative diseases. Notably, this review shows that the advances in human

brain proteomics offer a new vision to identify and develop novel mechanisms, biomarkers, and therapeutic targets for neurodegenerative diseases.

Alzheimer's disease (AD) is one of the biggest global challenges to human health and longevity.  $\beta$ -Amyloid ( $A\beta$ ) antibodies are extensively used in experimental studies and the neuropathological diagnosis of AD. Che *et al.* (2022) evaluated three newly developed monoclonal antibodies targeting  $A\beta$  (A1, A2, and A3) and proved that the antibodies could serve as new experimental tools for basic, translational, and diagnostic research into aging and AD-related neuropathology in both human and experimental animal brains.

Reports on single-cell technologies are growing astonishingly, providing new insights into the diversity of microglia and neurological disorders. Wang *et al.* (2022) review the current knowledge about microglial diversity in humans and mice during physiological and pathological conditions.

In summary, the first issue of the *Human Brain* presented here will consolidate our understanding of the mechanisms governing human brain functions and activities, the study of the pathogenesis of human brain disorders, and the development of databases and platforms for the study of the human brain.

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