World Congress on Physical Medicine and Rehabilitation
International Congress on Psychology & Behavioral Sciences
June 19-20, 2024 | Tokyo, Japan

Joint Event

## Hai Zhao

**Southeast University
China**

# Histidine: A potential biomarker of mental activity

## Abstract:

IHistidine is a precursor to the synthesis of histamine, which plays an important role in the central nervous system and is involved in a variety of brain function regulation processes, such as learning, memory and sleeping. In recent years, histidine is often used as a means of early diagnosis and evaluation of clinical treatment of related diseases, such as Parkinsonism. The research group of the author focused on the relationship between individual mental activity and histidine in non-invasive samples, and mainly carried out three studies: (1) College students were recruited for psychological stress test of keynote speech, and the salivary histidine levels of subjects in the speech group changed after stress. The results of state-trait anxiety scale showed that the change rate of histidine increased significantly with the increase of anxiety state. (2) College students were recruited for stress test of running. The analysis of histidine concentration in saliva samples showed that there was a signigicant positive correlation between histidine and running duration at a certain running distance, which on the other hand confirmed histidine as a potential biomarker to evaluate sports performance. (3) Volunteers were recruited to carry out an evaluation experiment on cigarette smoking sensation. The area under the histidine concentration time curve (AUC) after smoking was used as the evaluation index. The AUC of saliva histidine in group of flue-cured cigarettes was higher than that in the mixed cigarette group. These results suggest that histidine has the potential to become a new biomarker for mental activity.

## Biography

**Hai Zhao** is currently a PhD student in School of Biological Science and Medical Engineering in Southeast University, specializing in Biomedical Engineering. His primary research interests focus on detecting of amino acids, vitamins and their metabolites in biological samples.