
優秀発表賞応募講演 | JSAS Excellent Presentation Award

JSAS Excellent Presentation Award 3

Chairperson: Naoki Isobe Isobe, Kazuhisa Honda (Graduate School of Agriculture Science, Kobe University),
Ryuichi Tatsumi, Yuji Miyaguchi

Tue. Sep 14, 2021 9:30 AM - 11:00 AM 優秀発表応募演題3 (オンライン)

[IIIYS-02] Possible monoaminergic involvement in taurine induced hypothermia in chicks

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Objective: Recently, we found that central injection of taurine induced hypothermia in neonatal chicks through GABA_A receptor (Elhussiny et al., 2021). We further aimed to investigate the monoaminergic involvement in taurine induced hypothermia.

Materials and Methods: Five-days-old Julia chicks (n = 10) were centrally injected with saline or 5 μ mol of taurine. Brain and plasma samples were collected for monoamine and free amino acid analyses.

Results: Central taurine significantly increased diencephalic tryptophan, the precursor of serotonin (5-HT), and 5-HT as well as its metabolite 5-hydroxyindoleacetic acid concentrations in chicks. Moreover, central taurine significantly decreased diencephalic tyrosine concentration, the precursor of catecholamines. However, the norepinephrine concentration in the brain stem and its metabolite 3-methoxy-4-hydroxyphenylglycol in both the brain stem and diencephalon were significantly increased following central injection of taurine.

Conclusion: These results indicate that serotonergic and norepinephrinergic pathways may be involved in taurine induced hypothermia.