

# 30V-am05

副腎皮質ホルモンを介した鶏肉抽出エキスの概日時計に及ぼす影響  
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**[Background and Objective]** A functional interaction between foods and the circadian clock system has been suggested; however, the underlying mechanisms are still largely unknown. In this study, we investigated the influence of Brand's Essence of Chicken (BEC), a functional food consumed mainly in South Asia, on the mammalian circadian clock machinery.

**[Materials and methods]** Mice were housed under a standardized light-dark cycle (12:12) and separated to the two groups (control diet or BEC containing diet groups). After two weeks, the light-dark cycle was advanced or delayed by 6h. The synchronization speed of behavioral circadian rhythm was evaluated. To investigate role of glucocorticoid in the entrainment of behavior rhythms, mice were injected with corticosterone or vehicle after changing the light-dark cycle. To evaluate the influence of BEC on the circadian oscillation of glucocorticoid secretion and steroidogenic acute regulatory (StAR) gene expression, plasma corticosterone and StAR mRNA levels were measured. The influence of the components including in BEC on expression of StAR gene was investigated by luciferase reporter analysis

**[Results and discussion]** Mice fed with BEC containing diet showed faster entrainment speed of behavioral rhythm to phase advanced light-dark cycle. The facilitation of behavioral rhythm entrainment was accompanied by enhancement of the circadian secretion of glucocorticoid, a key humoral factor for resetting of circadian clock in peripheral tissues. Cyclo-(phe-phe), a component including in BEC, enhanced the glucocorticoid secretion rhythm by affecting on the expression of StAR gene in adrenal gland. The present findings provide a new insight into the biological action of BEC, and also lead to a better understanding of action of BEC for human health.