



Capsaicin pretreatment attenuates LPS-induced hypothermia through TRPV1-independent mechanisms in chicken.

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Abstract:

Assiut university Staff Researches Capsaicin pretreatment attenuates LPS-induced hypothermia through TRPV1- independent mechanisms in chicken Nikami, H., Mahmoud, M.E., Shimizu, Y., Shiina, T., Hirayama, H, Iwami, M., a, Dosoky, R.M, Ahmed, M.M., Takewaki, T. Abstract: It has been demonstrated that chicken TRPV1 (transient receptor potential vanilloid of subtype-1) is insensitive to capsaicin (CAP), and therefore, a chicken model is suitable to analyze the CAP-sensitive TRPV1-independent pathway. We elucidated here the possible involvement of the pathway in hypothermia induced by bacterial endotoxin (lipopolysaccharide, LPS) in chickens. Chicks were pretreated with CAP (10 mg/kg, iv) at 1, 2 and 3 days of age to desensitize them towards the CAP-sensitive pathway. An intravenous injection of LPS in 4-day-old chicks caused progressive hypothermia, ending with collapse and 78% mortality within 12 h after injection. The CAP pretreatment rescued the LPS-induced endotoxin shock and hypothermia in chicks. LPS-induced iNOS expression as well as NO production in liver and lung was suppressed by CAP pretreatment. CAP pretreatment also attenuated hypothermia due to exposure of chicks to cold ambient temperature. These findings suggest that a CAP-sensitive TRPV1-independent pathway may be involved in pathophysiological hypothermic reactions through the mediation of NO in chickens Published In: Life Sciences , Vol. 82, No. 23-24 , PP. 1191-1195 Powered by

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