

Melittin: a venom-derived peptide with promising anti-viral properties.

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Abstract

Despite tremendous advances in the development of anti-viral therapeutics, viral infections remain a chief culprit accounting for ongoing morbidity and mortality worldwide. Natural products, in particular animal venoms, embody a veritable cornucopia of exotic constituents, suggesting an immensurable source of anti-infective drugs. In this context, melittin, the principal constituent in the venom of the European honeybee *Apis mellifera*, has been demonstrated to exert anti-cancer, anti-inflammatory, anti-diabetic, anti-infective, and adjuvant properties. To our knowledge, there is no review appertaining to effects of melittin against viruses, prompting us to synopsise experimental investigations on its anti-viral activity throughout the past decades. Accumulating evidence indicates that **melittin curbs infectivity of a diverse array of viruses** including **coxsackievirus, enterovirus, influenza A viruses, human immunodeficiency virus (HIV), herpes simplex virus (HSV), Junin virus (JV), respiratory syncytial virus (RSV), vesicular stomatitis virus (VSV), and tobacco mosaic virus (TMV)**. However, medication safety, different routes of administrations, and molecular mechanisms behind the anti-viral activity of melittin should be scrutinized in future studies.

KEYWORDS:

Anti-viral activity; Bee; Drug; Melittin; Venom