

Novel Labyrinthopeptins as anti-viral agents

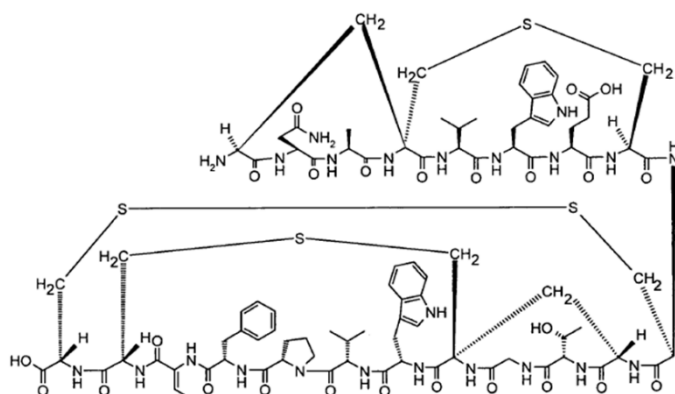
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INVENTION NOVELTY

Novel labyrinthopeptins, a class of lantibiotics containing the rare amino acid labionin, have been developed as potent antiviral agents. These ribosomally synthesized peptides, produced by specific bacterial strains, demonstrate significant antiviral activity against a broad spectrum of human viruses, including hRSV, hCMV, KSHV, and others. Their ability to target enveloped viruses, combined with a synergistic effect when used together, offers a new approach to combating viral infections.

VALUE PROPOSITION

Viral infections, including those caused by hRSV, hCMV, and KSHV, remain a significant threat to human health, particularly in children, the elderly, and immunocompromised patients. Current antiviral treatments are limited or ineffective, especially against emerging resistant strains. Labyrinthopeptins, with their strong activity against a broad range of enveloped viruses, provide a novel solution for combating viral infections, making them highly suitable for developing broad-spectrum antiviral therapies.



Chemical stereostructure of labyrinthopeptin A1

TECHNOLOGY DESCRIPTION

Labyrinthopeptins, a novel class of lantibiotics containing the rare amino acid labionin, are harnessed as antiviral agents. Produced by specific bacterial species, these peptides, particularly LabyA1 and A2, show strong antiviral activity in the low micromolar range, especially against hRSV, as well as other viruses like hCMV, KSHV, DENV, CHIKV, ZIKV, and HCV. Recent studies reveal a synergistic effect when combining LabyA1 and A2 in a 1:1 ratio, significantly boosting their potential as broad-spectrum antiviral agents.

COMMERCIAL OPPORTUNITY

The technology is suitable for the development of broad-spectrum antiviral drugs and is offered for co-development or in-licensing.

DEVELOPMENT STATUS

Data from cell culture model experiments are available. In vivo data in suitable infection mouse models are available.

PATENT SITUATION

European priority application filed in November 2015, international PCT-, & Europe- application published; national applications granted in Germany and Japan.

FURTHER READING

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