

## Lantibiotics from the anaerobe *Ruminococcus flavefaciens* FD-1

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Lanthipeptides are a class of ribosomally synthesized and post-translationally modified natural products, a subset of which display antimicrobial activity and are called lantibiotics. Lanthipeptide biosynthetic machinery is conserved, which facilitates discovery efforts. Genome mining revealed a lanthipeptide gene cluster within the anaerobic organism *Ruminococcus flavefaciens* FD-1 that represents an example of lanthipeptide combinatorial biosynthesis in which a pair of enzymes could be responsible for the modification of twelve substrate peptides. In order to systematically assess the structures and bioactivities of the peptides encoded within the cluster, a heterologous host and in vitro production strategy was employed to access the modified peptides. The presence of characteristic post-translational modifications in the processed peptides was confirmed by chiral gas-chromatography mass spectrometry and tandem mass spectrometry. Furthermore, a preliminary assessment revealed the FlvA peptides to be antibacterial and studies are underway to quantify their antimicrobial activity.

