

Title: **A bibliographic review on aminonucleoside antibiotic A201A**

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Currently, one of the most important challenges of medicinal chemistry is the fight against drug-resistant infections. The increase in bacterial resistance to existing antibiotics, together with the decrease in research and development spending in the pharmaceutical industry, is becoming a major threat to global health. The reasonable use of antibiotics could slow down the development of bacterial resistance, but it is essential to continue research to find new and more efficient drugs. Within this context, natural products continue to be a source of inspiration for new targets and drugs.

A201A is a natural antibiotic recently discovered that derives from adenosine, and comprises two units of glycoside and one of coumarate. Notably, A201A results from the combination of two known antibiotics with potent antibacterial activity, such as hygromycin A and puromycin. Similarly to these two drugs, A201A also acts by inhibiting protein synthesis by blocking translation in the ribosome.

The main objective of this present TFG report was a review on A201A, with a focus on the synthetic routes of the compound and its derivatives, the elucidation of the biosynthesis pathway, and studies of structure-antibacterial activity.

Keywords: aminonucleoside, antibiotics, biosynthesis, organic synthesis, protein synthesis inhibition.