

Kanamycin revisited: a combined potentiometric and spectroscopic study of copper(II) binding to kanamycin B.

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Coordination of Cu(II) to kanamycin B, an aminoglycosidic antibiotic, was studied by potentiometry and UV-Vis, circular dichroism and electron paramagnetic resonance spectroscopies. Mononuclear complexes with stoichiometries ranging from CuH₃A to CuH₋₂A were found. Kanamycin B binds Cu(II) through nitrogen and oxygen donors of two terminal aminosugar rings, but the central deoxystreptamine moiety does not participate in the binding. The complex mediates oxidation of 2'-deoxyguanosine by H₂O₂ very effectively. These properties may contribute to biological properties of kanamycin B.

Słowa kluczowe

Aminoglycosidic antibiotic, Kanamycin complexes, Copper complexes

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