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Some features of hydrolysis of the hybrid B-Z-form dna by serratia marcescens nuclease

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Abstract

Highly polymerized herring testis DNA of the random nucleotide sequence was used as a model of natural substrate to study some features of hydrolysis of the hybrid B-Z form with *Serratia marcescens* nuclease. The hybrid B-Z-form was formed upon addition of 1.15. M MgSO₄ and 0.421 mM Co(NH₃)₆Cl₃. The DNA transition from the right handed B-form to the hybrid B-Z-form caused a decrease in V_{max} of DNA cleavage with the nuclease. The diminishing V_{max} was consistent with diminishing values of K_m and K_{cat}. The binding of Mg²⁺ or Co(NH₃)₆³⁺ to highly polymerized DNA caused correspondingly about 80-or 7-fold decrease in K_m and more than 1600 or 600 decrease in K_{cat} compared with that of Mg-DNA complex of B-form. © 2014 Science Publication.

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Keywords

Hybrid B-Z-form DNA, *Serratia marcescens* nuclease, Sma Nuc