Biochemistry (Moscow) 1997 vol.62 N9, pages 983-988

Isoforms of Serratia marcescens nuclease. The role of Mg2+ in the hydrolysis mechanism

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Abstract

Structural and functional differences between isoforms Sm1 and Sm2, a lack of influence of free Mg2+ on the isoform structures, formation of DNA-magnesium complex serving with great probability as a real substrate for the nuclcasc has been summarized on the basis of experimental data. Mg2+ forming a complex with phosphate groups of DNA are supposed to further increase the electrophilicity of the phosphorus atoms besides causing a conformational change of the substrate.

Keywords

CD, Isoforms, Mg-DNA, Mg2+, Na DNA, Nuclease, Serratia marcescens