ΞΕΝΟΔΟΧΕΙΟΝ - "ΞΕΝΙΑ,, - ΣΠΕΤΣΩΝ

Dear Arthur,

We have been discussing the Exonuclease II activity of the polymerase and have come up with the following scheme :-

(a) The biological function of Exo II is to delete mispaired bases by a simple hydrolytic reaction. The low level of mutation is hard to understand unless one has two stages of discrimination against A-C or G-U pairing

(b) The in vitro activity against polydA - polydU is maximal at pH 9 because the ends of the helix are coming apart and a "loose end" looks like a mispaired base to the enzyme.

If this is true a helix of polyU against $(pdA)_n$ pdG* should release pdG* rapidly with a pH optimum closer to 7, etc. Is this worth testing?

Sincerely

Leslie Orgel.

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Unfortunately Paul has just left, so we're having to send this by post. Hope it doesn't take too long to reach you.

Francis