E801

Loss of M-hairpin provoked abortion of bacteriophage T7 packaging with accumulation of the truncated left ends

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The intracellular replicating form of T7 DNA is a concatemer in which the linear genomes are joined head to tail by sharing 160-bp terminally repeated sequences. For the efficient production of progeny phage particles, the concatemers must be processed to regenerate the ends by duplicating the joint part. M-hairpin end was implicated in this duplication since the hairpin seemed to be produced by a uni-directional rolling-circle type replication across the concatemer junction. We have isolated a recombinant T7 ($T7_{\Delta M}$) deleted in the palindromic *m* region responsible for the hairpin. The progeny phage production was reduced by four-fold and the intracellular DNA revealed the accumulation of truncated left end by 160-bp suggesting the loss of the terminal repeat. This is consistent with the proposed mechanism of the T7 concatemer processing in which the duplicated concatemer junction with the M-hairpin provides the termination site of packaging.
[Supported by a grant from the Inje Foundation]

E802

Cloning of Guamerin, a New Elastase Inhibitor.

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A new human leukocyte elastase inhibitor called the guamerin was isolated and purified from korean native leech, *Hirudo nipponia* in our laboratory. For cloning of guamerin, total RNA and mRNA were isolated from leech body. And then first-strand cDNA was synthesized from mRNA. For PCR amplication on first-strand cDNA, we designed two degenerate primers that were made from N-terminal and C-terminal amino acid sequences of guamerin. We isolated PCR product of 170bp size and cloned 170bp PCR product into *Sma*I site of pUC19. And then the sequence of the insert was determined by dideoxy method with universal primer and reverse primer. The sequences of PCR products were completely determined and product showed the structural gene of guamerin. Guamerin fusion protein expression and cDNA library construction are carried out.