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Hammerhead selection

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Hammerhead ribozymes with self-cleaving properties have been found in a range of organisms, including plants, newts, schistosomes and cave crickets. In the November 1 Nature, Salahi-Ashtiani and Szostak of the Howard Hughes Medical Institute and Massachusetts General Hospital describe an i*n vitro* system to address the origins of hammerhead ribozymes (*Nature* 2001, **413:**82-84). They used a DNA collection encoding large random-sequence RNAs to select self-cleaving RNAs. Repeated rounds of selection lead to the artificial evolution of self-cleaving molecules. Of these, several have sequence features of hammerhead ribozymes. The authors suggest that the hammerhead ribozyme is the simplest RNA motif with self-cleaving abilities, which explains why it has been selected repeatedly during evolution.

References

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