GERMAN CANCER RESEARCH CENTER
IN THE HELMHOLTZ ASSOCIATION

Research for a Life without Cancer

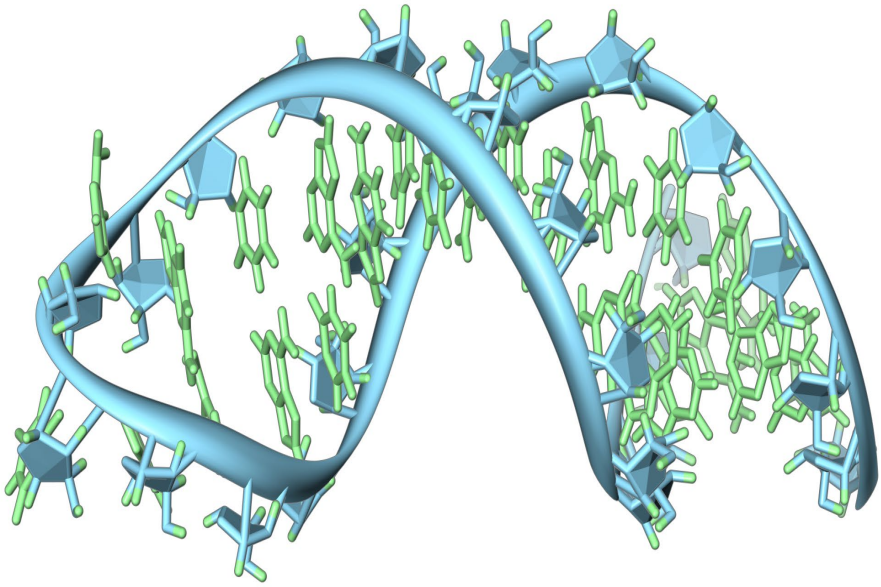
TECHNOLOGY OFFERS

DNA Lock off: Enabling selective amplification of nucleic acid sequences (P-1357)

A method to prevent incorporation of DNA molecules into DNA libraries for massive parallel sequencing of RNA.

EXECUTIVE SUMMARY

Nucleic acids amplification is a process used to multiply DNA or RNA sequences for downstrea analysis. The preparation of amplified nucleic acid libraries is an important step required for RNA and DNA analysis using massive-parallel sequencing as well as microarrays and certain qPCR-based techniques. Highly efficient methods for generating amplified cDNA librarie from RNA also incorporate the unwanted DNA molecules if the latter are present in the sample thus challenging the specificity of the final librar This invention offers the advantage to selective amplify RNA molecules by blocking the contaminating DNA, thus excluding its incorporation into the library without significantl affecting the quality of remaining RNA in the sample. This method can also be used to increase the specificity of techniques for nucleic acid detection, selective labelling of RNA or DN as well as selective purification of nucleic acids.



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A priority patent application EP20154749.4 “Selective amplification of nucleic acid sequences” has been filed in Europe on 30 January 2020.

Category	Indication	Development stage	Seeking
Method	Molecular Biology	Proof of concept	Licensing partner

BENEFITS

- This method overcomes the non-specificity of highly efficient methods for nucleic acids cloning and library preparation such as Capture and Amplification by Tailing and Switching (CATS) and, possibly other methods which rely on polynucleotide tailing as well as ligation.
- DNA Lock off can efficiently block the contaminating DNA in RNA samples without affecting the quality of the RNA.
- Broad applications in various fields involving analysis of nucleic acids particularly RNA sequencing from liquid biopsies and RNA immunoprecipitation experiments.