DNASCRIPT

SYNTAX™

THE FIRST ENZYMATIC DNA SYNTHESIS SYSTEM

Synthetic DNA is a key reagent in the life science industry, from basic molecular biology research to cell and gene therapy manufacturing. However, while most technologies in this space have gone through major improvements over the last 15 years (for example, NGS for sequencing and CRISPR for genome editing), DNA manufacturing still relies on third-party oligo synthesis services with instruments powered by phosphoramidite chemistry inventions[1] from the 80s.

In order to enable same-day discovery and eventually genome-scale synthesis, DNA Script developed enzymatic DNA synthesis (EDS) as an alternative to organic chemistry. EDS powers our benchtop instrument, SYNTAX™, to provide on-demand, same-day synthesis of ready-to-use oligonucleotides for a wide range of applications.

DNA. ON DEMAND.

SYNTAX is the first nucleic acid printer based on enzymatic technology. This benchtop instrument enables you to synthesize 96 DNA fragments in parallel with 99.4% accuracy (per base) in as little as 6 hours. The end result is purified, quantified, and normalized oligos ready to use in your experiments.

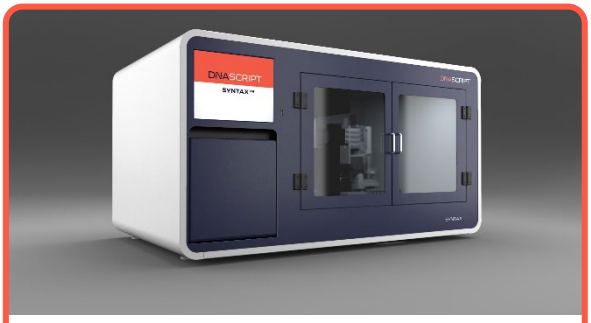
Iterate Faster. SYNTAX gives you the ability to iterate your experiments faster, in contrast to outsourcing, where delivery times range from a few days in the best cases, to a few weeks if the need is complex or if outsourcing capacities are saturated (which has been the case since March 2020 in the context of the Covid-19 epidemic). Design, build, test...and repeat, even within the same day.

Simple by Design. SYNTAX simplifies the synthesis process, enabling researchers with little experience or training to upload sequence files, insert the reagent trays, and get started. No dedicated, highly specialized personnel resources necessary.

Secure and Confidential. SYNTAX's DNA printing prevents your sequence from becoming competitive intelligence. Your sequence can stay inside your firewall.

Complete Control. SYNTAX puts your research timeline under your control—the oligos you want, when you want them.

Future Developments. DNA Script continues to innovate, increasing plex, oligo length, yield, throughput and support of oligo modifications.



SYNTAX™ System Snapshot

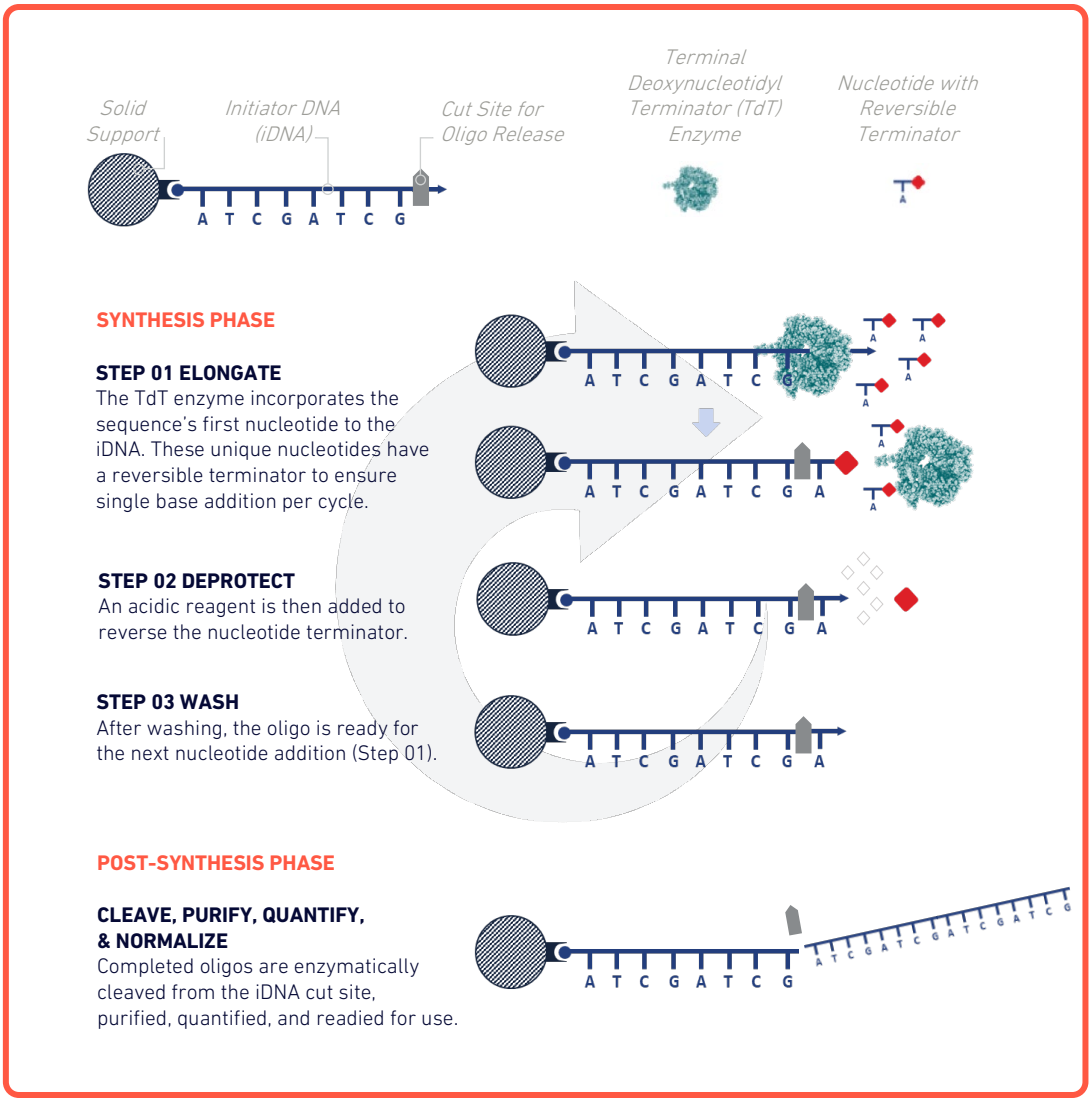
	1-96 Oligos in Parallel Synthesized in a 96-well Plate
	200 pmol Final
	<15-min Hands-on Time 6-hr 20-mers 13-hr 60-mers
	60 nt Synthesis
	4 "Inks" (G, A, T, C)
	Fully Automated: Sequence in – Oligos out

EDS TECHNOLOGY

Traditional commercial oligo providers synthesize DNA using phosphoramidite chemistry methods pioneered in the 60s[1] and industrially and commercially developed since the 80s. These lengthy, complicated methods are sensitive to laboratory conditions (for example air and water poison the reactions) and require highly skilled operators and large quantities of explosive oxidizers and toxic organic solvents.

DNA Script's EDS technology is inspired by nature. EDS employs a proprietary, highly engineered enzyme to accelerate nucleic acid synthesis and optimize its performance. And unlike conventional chemistry, this process is carried out in an open-air, aqueous medium, without harsh solvents.

Enzymes enable SYNTAX to print functional oligos, even those that traditional phosphoramidite technology finds hard to synthesize, and has been successfully tested in over 30 partner laboratories. The technology has the potential to synthesize modified DNA with fluorophores, quenchers, and linkers to extend the targeted field of application. In addition, we have successfully demonstrated the ability to synthesize long oligos (up to 280 nt)[2], demonstrating the promise this enzymatic DNA synthesis holds. Our technology is protected by a portfolio of over 20 patent applications.



ABOUT DNA SCRIPT

Since its inception in 2014, DNA Script has focused on enabling researchers to iterate faster by bringing "DNA write" to the benchtop of any lab through its EDS technology. The company was founded by three engineers working in the life sciences sector, who, hampered by needing to wait days for a delivery from oligo service providers, thought, "There must be a better way." Thus EDS and the SYNTAX System were born, bringing autonomous access to synthetic DNA with a simple interface that provides ultimate control over research experiments.

The company has been collaborating with more than 30 commercial, government, and academic partners to ensure its products meet or exceed customer expectations and product specifications. Collaborations include Institut Pasteur, Broad Institute, Harvard University, IARPA, French Department of Defense, and DARPA.

Since 2016, DNA Script has raised $137.5M (€114M) from private investors in the life science sector. We benefit from the experience and advice of leaders in European life science venture capital and corporate venture.

FOR MORE INFORMATION

DNA Script – France
67 avenue de Fontainebleau
94270, Le Kremlin-Bicêtre
France
+33 1 56 20 56 00

DNA Script – US
279 East Grand Avenue, Suite 440
South San Francisco, CA 94080
+1 (650) 457-0844

contact@DNAScript.com
www.DNAScript.com

[1] Caruthers, M. (1985). Gene synthesis machines: DNA chemistry and its uses. *Science*, 230(4723), 281–285. doi:10.1126/science.3863253

[2] Eimerman, P. (2020, Feb 29-Mar 3). Development of a simple and versatile enzymatic DNA synthesis system that enables accurate, fast, and long oligos on demand. 2020 Association of Biomolecular Resource Facilities 2020 Annual Meeting, Palm Springs, CA United States.