Lyophilisation for convenient isolation of purified material
Multinuclear NMR for stereochemistry determination experiments and structure elucidation
State-of-the-art scale up facilities for route optimisation and process development including 10-50L jacketed vessels, flow chemistry and fully compliant GMP and RSM manufacturing capabilities

Our project teams have a demonstrated track record of producing robust nucleoside and nucleotide candidates suitable for ‘proof-of-concept’ testing and have made key contributions to compounds undergoing clinical development. We have extensive experience in the complexities involved in the nucleotide prodrug strategies common to the marketed antivirals, Sofosbuvir², Tenofovir disoproxil5 and Remdesivir3. Our long-established history of scaling up complex chemistry delivers increased yields, safety and process improvements and shorter time-frames resulting in more cost effective projects for our clients.

Our personalised approach is provided with complete confidentiality and is underpinned by clear and regular communication from a dedicated project team while ensuring complete protection of Intellectual Property.
EXAMPLES OF OUR WORK

Our Expert team at Concept Life Sciences have undertaken numerous successful client collaborations and partnerships involving the synthesis of nucleosides and nucleotides where our project teams have made vital contributions, several of which are exemplified in Figure 1.

Our scientists have successfully delivered the synthesis of several complex bridged nucleosides including the 17 chemical step synthesis of \(2\'-\text{C-Me-LNA-G}\). Key to this synthesis was the optimisation and scale up of a multigram 1-pot oxidation-Grignard protocol for the stereoselective introduction of the \(2\'\)-C-methyl substituent to provide access to key intermediate 2 starting from \(>500\) g of 1.

On other occasions we have provided synthetic expertise towards triphosphate type compounds including an array of acetylene functionalised clickable nucleotide phosphates, as well as a huge array of variously modified nucleosides and nucleotides for a client over the course of a multi-year FTE collaboration.

Additionally, we have gained extensive experience of prodrug strategies working collaboratively with several clients over many years to prepare and purify a large array of highly sensitive nucleotide phosphoramidate and phosphate prodrugs on milligram to \(>1000\) g scale.

SELECTING THE RIGHT CRO AND CDMO PARTNER IS AN IMPORTANT INVESTMENT IN THE EVER-CHANGING LANDSCAPE OF TODAY’S INDUSTRY

Housed in state-of-the-art facilities, scientists at Concept Life Sciences have extensive experience in the preparation of novel modified nucleosides and nucleotides. With a demonstrable history of successful client collaborations on a wide variety of project types from discovery chemistry through to process development, we pride ourselves in delivering a world class synthetic chemistry service underpinned by clear communication and confidentiality.

We are the perfect partner to support your investment, sharing your passion for delivering science.

REFERENCES


AS YOUR DEDICATED PARTNER AND COLLEAGUE, WE ARE HERE TO HELP YOU ACHIEVE YOUR GOALS

Figure 1: Example nucleosides and nucleotides that have been prepared by Concept Life Sciences scientists