



Image source: Kratom IQ

About us

Based on long-standing experience in the enzymatic synthesis of nucleoside analogs and the production of difficult to express proteins, BioNukleo was founded in 2014 as a spin-off of the Department of Bioprocess Engineering of Technische Universität Berlin and developed to a specialist for the (chemo-) enzymatic production of nucleic acid derivatives.

Enzymatic synthesis of nucleic acid derivatives



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Technology

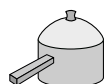
While pure chemical synthesis of nucleoside analogs is the highly trusted status quo, enzymatic synthesis offers several advantages:



simple procedure with very few steps



short reaction times



reactions in one pot saves production space



high relative yields, high purity, no enantiomers



competitive price



sustainable and eco-friendly

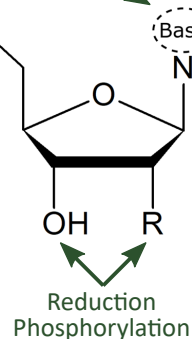
Phosphorylation
Amination
Sulphurylation

Amination/
Deamination

Base exchange

Pseudouridine
formation

Reactions
catalysed by
well-studied
enzymes:



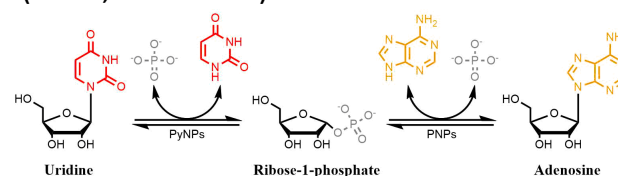
Reduction
Phosphorylation

Enzymes

BioNukleo produces various enzymes that can modify nucleosides, nucleotides and their analogs. Our libraries include both selective and promiscuous enzymes.

We offer:

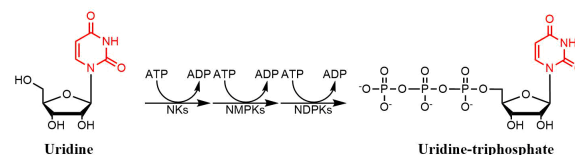
- * Pyrimidine nucleoside phosphorylases (PyNPs, EC 2.4.2.2)
- * Purine nucleoside phosphorylases (PNPs, EC 2.4.2.1)



- * Nucleoside N-ribohydrolases (NRHs, 3.2.2.x)



- * Nucleoside kinases (NKs, EC 2.7.1.x)
- * Nucleoside-monophosphate kinases (NMPKs, EC 2.7.4.4)
- * Nucleoside-diphosphate kinases (NDPKs, EC 2.7.4.6)



Products

We offer:

- * selected modified nucleosides and nucleotides
- * sugar-1-phosphates

Custom Synthesis

BioNukleo - as an experienced nucleoside and enzyme specialist - is a perfect match for your project. Together with you, we will find the optimal cost- and time-efficient sustainable synthesis route for your nucleoside analog. We cover all aspects from project planning and early-stage testing to upscaling strategies.

Activity Screening

With our automated enzyme activity screening, we can offer rapid testing of potential substrates. That way you can find out whether your specific substrate is accepted by our enzymes before you order.