

## 3-nitrogen derivatives of methyl 2,3-dideoxy-D-ribo- hexopyranosides for use as an HIV-1 reverse transcriptase inhibitor

### About the invention

The subject of the invention is a pair of anomers of 3-azido-2,3-dideoxy-D-ribo-hexopyranoside methyl and a pair of anomers of 3-amino-2,3-dideoxy-D-ribo-hexopyranoside methyl, intended for use as inhibitors of HIV-1 reverse transcriptase.

These compounds are dideoxy-hexopyranoside analogues of azidothymidine (AZT) and, based on molecular docking studies and synthesis data, demonstrate the potential to bind the active site of reverse transcriptase and inhibit its activity.

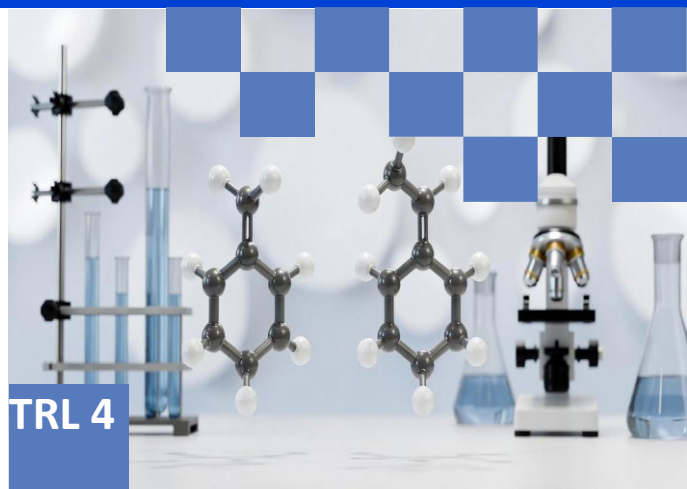
The invention covers the compounds, their synthesis, in silico interaction data with the enzyme, and their medical application as candidate antiretroviral agents against HIV-1.

### IP protection

The invention is protected by the Polish Patent Office under the following number:  
**Pat.240353**

### Technology readiness level

TRL 4 – Technology validated in laboratory conditions



TRL 4

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### Applications

- HIV-1 reverse transcriptase inhibitors,
- Components of novel antiviral drugs,
- Model compounds for studying HIV replication mechanisms.

### Possible cooperation

- Joint studies on biological activity and toxicity,
- Technology licensing and pharmaceutical development,
- Partnerships with biotech and pharmaceutical companies.