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## DATASHEET

### Azidothymidine

#### Product overview

<b>Name</b>	Azidothymidine
<b>Cat No</b>	HB4602
<b>Description</b>	Selective reverse transcriptase inhibitor with anti-HIV activity. Decreases CRISPR-mediated homology directed repair (HDR) and enhances gene knockout efficiency.
<b>Alternative names</b>	AZT, ZDV

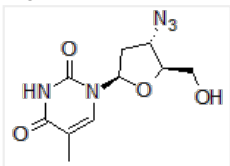
#### Biological Data

<b>Biological description</b>	Selective reverse transcriptase inhibitor which exhibits 100-fold selectivity for HIV reverse transcriptase compared to DNA polymerase $\alpha$ . Blocks HIV replication and exhibits anti-HIV activity. Orally bioavailable and brain penetrant. Also decreases CRISPR-mediated homology directed repair (HDR) efficiency and enhances gene knockout efficiency.
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#### Solubility & Handling

<b>Storage instructions</b>	Room temperature
<b>Solubility overview</b>	Soluble in water (50 mM) and in DMSO (100 mM)
<b>Important</b>	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

#### Chemical Data

<b>Chemical name</b>	3'-Azido-3'-deoxythymidine
<b>Molecular Weight</b>	267.2
<b>Chemical structure</b>	
<b>Molecular Formula</b>	$C_{10}H_{13}N_5O_4$
<b>CAS Number</b>	30516-87-1
<b>PubChem identifier</b>	5726
<b>SMILES</b>	<chem>CC1=CN(C(=O)NC1=O)C2CC(C(O2)CO)N=[N+]=[N-]</chem>
<b>InChi</b>	InChI=1S/C10H13N5O4/c1-5-3-15(10(18)12-9(5)17)8-2-6(13-14-11)7(4-16)19-8/h3,6-8,16H,2,4H2,1H3,(H,12,17,18)
<b>InChiKey</b>	HBOMLICNUCNMMY-UHFFFAOYSA-N
<b>MDL number</b>	MFCD00006536
<b>Appearance</b>	White solid

#### References

**3'-Azido-3'-deoxythymidine (BW A509U): an antiviral agent that inhibits the infectivity and cytopathic effect of human T-lymphotropic virus type III/lymphadenopathy-associated virus in vitro.**

Mitsuya et al (1985) Proc Natl Acad Sci U S A 82(20)

**PubMedID** [2413459](#)

**The development of antiretroviral therapy and its impact on the HIV-1/AIDS pandemic.**

Broder (2010) Antiviral Res 85(1)

**PubMedID** [20018391](#)

**Small molecules enhance CRISPR genome editing in pluripotent stem cells.**

Yu et al (2015) Cell Stem Cell 16(2)

**PubMedID** [25658371](#)

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