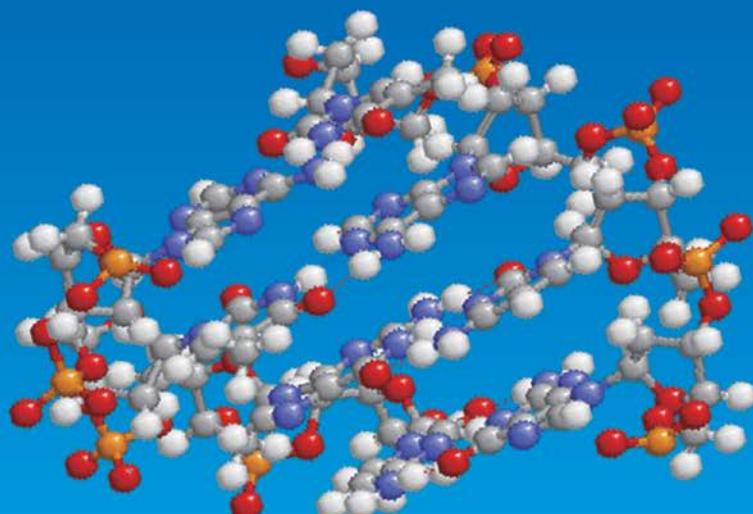


Nucleosides, Nucleotides, Nucleic Acids and Related Reagents



Nucleosides and Their Analogs

Nucleotides and Their Analogs

Nucleic Acids

Enzymes and Coenzymes related to Nucleic Acids

Nucleobases and Their Analogs

Pharmacologically-Active Nucleosides and Nucleobases

Nucleic Acid Synthesis Agents

Nucleosides, Nucleotides, Nucleic Acids and Related Reagents

Genetic information is stored in DNA as combinatorial codes held in nucleosides and nucleotides, in which form it is passed from parents to their offspring. Analogs of nucleosides and nucleotides are used clinically as medicinal agents such as reverse transcriptase inhibitors. Therefore, the preparation and development of these species as effective, selective and nontoxic antiviral and antitumor agents has been the subject of intense research.¹⁾

In addition to this, the development of Polymerase Chain Reaction (PCR) methodology has brought a dramatic change and rapid development in studies of DNA. At the current time the draft version in decoding and mapping human genome has been almost completed, and the functional analyses of genome and analyses of "Single Nucleotide Polymorphism" (SNP) are being vigorously pursued. Discovery of the RNAi process has facilitated the fast progression of studies of RNA. At the same time, chemically synthesized oligoDNA and oligoRNA have been studied as potential antisense DNAs, siRNAs and DNA aptamers, as oligonucleotide therapeutic agents, primers for PCR method, and elements of DNA computers.

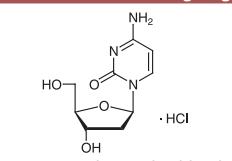
Nucleosides and Their Analogs

Nucleosides are glycosylamines made by attaching a nucleobase to a ribose or 2'-deoxyribose, which can be phosphorylated producing nucleotides. Nucleoside analogs are an established class of clinically useful medicinal agents possessing a wide range of antiviral and anticancer activities. Consequently, extensive modifications have been made to both the heterocyclic base and the sugar moiety. Some representative examples of these are 9-[(2-hydroxyethoxy)methyl]guanine (acyclovir) developed by Elion in 1977, which shows antiviral activity; 3'-azido-3'-deoxythymidine (AZT) discovered by Mitsuya *et al.* in 1985 and used for the treatment of HIV infection; and cytosine β-D-arabinofuranoside (cytarabine) approved by the FDA in 1969 and which has been shown to display a range anticancer activities. In addition, modified nucleosides such as 2'-deoxy-5-methylcytidine are ubiquitous in living systems, and their functions have received due attention from the scientific community.²⁾

Protected nucleosides, in which reactive amino and hydroxyl groups have been masked, e.g. *N*⁶-benzoyl-5'-O-(4,4'-dimethoxytrityl)-2'-deoxyadenosine (Bz-DMT-dA), have been used for chemical synthesis of DNA and RNA.

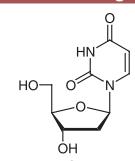
Nucleosides and Their Analogs

D0048 5g 25g



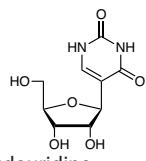
2'-Deoxycytidine Hydrochloride
CAS RN: 3992-42-5

D0060 1g 5g 25g



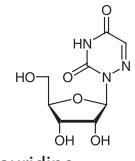
2'-Deoxyuridine
CAS RN: 951-78-0

P2396 50mg



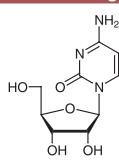
Pseudouridine
CAS RN: 1445-07-4

A0559 10mg



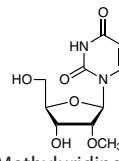
6-Azauridine
CAS RN: 54-25-1

C0522 1g 5g 25g



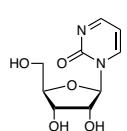
Cytidine
CAS RN: 65-46-3

M2290 1g 5g



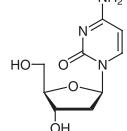
2'-O-Methyluridine
CAS RN: 2140-76-3

Z0022 200mg 1g



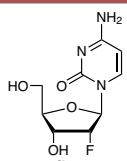
Zebularine
CAS RN: 3690-10-6

D3583 1g 5g



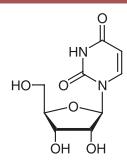
2'-Deoxycytidine
CAS RN: 951-77-9

D3614 1g



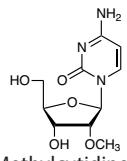
2'-Deoxy-2'-fluorocytidine
CAS RN: 10212-20-1

U0020 5g 25g



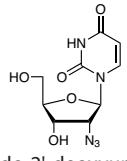
Uridine
CAS RN: 58-96-8

M2317 200mg 1g

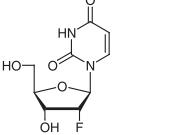
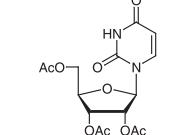
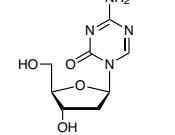
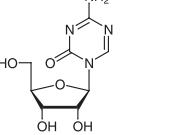
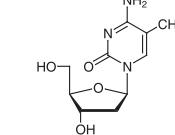
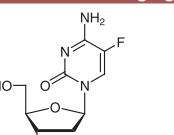
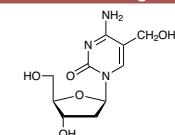
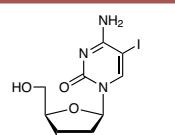
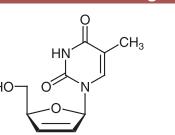
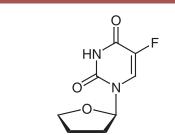
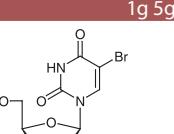
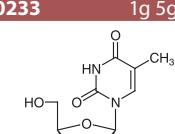
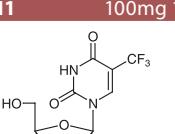
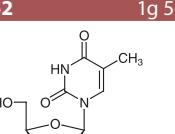
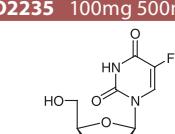
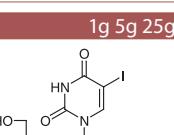
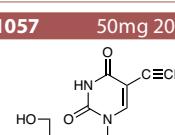
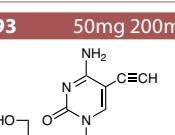
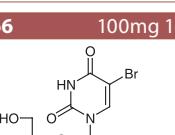
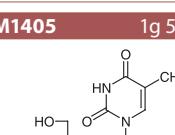
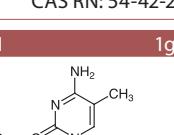
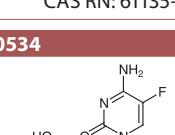
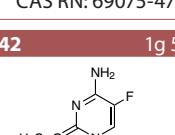
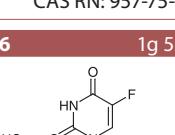
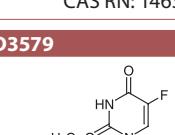
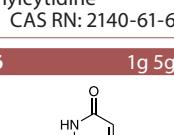
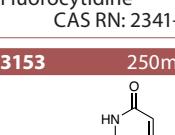
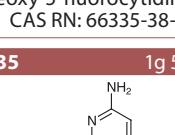
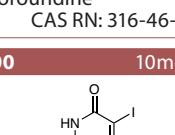
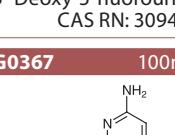
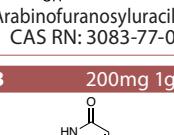
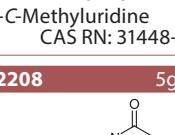
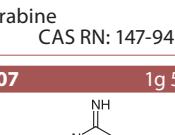
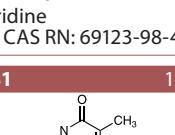
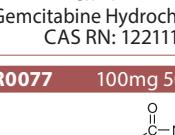
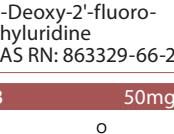
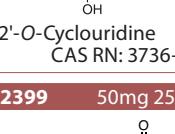
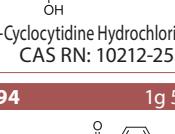
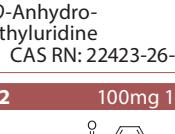
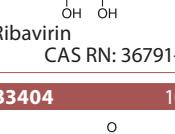


2'-O-Methylcytidine
CAS RN: 2140-72-9

A2942 25mg 100mg



2'-Azido-2'-deoxyuridine
CAS RN: 26929-65-7

D3615  2'-Deoxy-2'-fluorouridine CAS RN: 784-71-4	T2549  2',3',5'-Tri-O-acetyluridine CAS RN: 4105-38-8	A2232  5-Aza-2'-deoxycytidine CAS RN: 2353-33-5	A2033  5-Azacytidine CAS RN: 320-67-2	D3610  2'-Deoxy-5-methylcytidine CAS RN: 838-07-3
D3642  2'-Deoxy-5-fluorocytidine CAS RN: 10356-76-0	D4220  2'-Deoxy-5-(hydroxymethyl)-cytidine CAS RN: 7226-77-9	I0882  5-Iodo-2'-deoxycytidine CAS RN: 611-53-0	D3580  Stavudine CAS RN: 3056-17-5	F0635  Tegafur CAS RN: 17902-23-7
B1575  5-Bromo-2'-deoxyuridine CAS RN: 59-14-3	T0233  Thymidine CAS RN: 50-89-5	T2511  Trifluorothymidine CAS RN: 70-00-8	A2052  Azidothymidine CAS RN: 30516-87-1	D2235  2'-Deoxy-5-fluorouridine CAS RN: 50-91-9
I0258  Idoxuridine CAS RN: 54-42-2	E1057  5-Ethynyl-2'-deoxyuridine CAS RN: 61135-33-9	E1093  5-Ethynyl-2'-deoxycytidine CAS RN: 69075-47-4	B0666  5-Bromouridine CAS RN: 957-75-5	M1405  5-Methyluridine CAS RN: 1463-10-1
M1931  5-Methylcytidine CAS RN: 2140-61-6	F0534  5-Fluorocytidine CAS RN: 2341-22-2	D4342  5'-Deoxy-5-fluorocytidine CAS RN: 66335-38-4	F0636  5-Fluorouridine CAS RN: 316-46-1	D3579  5'-Deoxy-5-fluorouridine CAS RN: 3094-09-5
A2356  1-β-D-Arabinofuranosyluracil CAS RN: 3083-77-0	M3153  2'-C-Methyluridine CAS RN: 31448-54-1	C2035  Cytarabine CAS RN: 147-94-4	D4200  Fialuridine CAS RN: 69123-98-4	G0367  Gemcitabine Hydrochloride CAS RN: 122111-03-9
D4823  (2'R)-2'-Deoxy-2'-fluoro-2'-methyluridine CAS RN: 863329-66-2	C2208  2,2'-O-Cyclouridine CAS RN: 3736-77-4	C2207  2,2'-O-Cyclocytidine Hydrochloride CAS RN: 10212-25-6	A2431  2,2'-O-Anhydro-5-methyluridine CAS RN: 22423-26-3	R0077  Ribavirin CAS RN: 36791-04-5
A2528  Acadesine CAS RN: 2627-69-2	M2399  Mizoribine CAS RN: 50924-49-7	B3094  N'-Benzoylcytidine CAS RN: 13089-48-0	B3102  N'-Benzoyl-2'-deoxycytidine CAS RN: 4836-13-9	B3404  Brivudine CAS RN: 69304-47-8

B3631 N ⁴ -Benzoyl-3',5'-O-(1,1,3,3-tetraisopropyl-1,3-disiloxanediyl)cytidine CAS RN: 69304-43-4	L0217 Lamivudine CAS RN: 134678-17-4	C0525 Cytidine Sulfate CAS RN: 32747-18-5	C2878 Capecitabine CAS RN: 154361-50-9	D3566 5'-O-(4,4'-Dimethoxytrityl)-thymidine CAS RN: 40615-39-2
B3087 N ⁴ -Benzoyl-5'-O-(4,4'-dimethoxytrityl)-2'-deoxycytidine CAS RN: 67219-55-0	Purine Nucleosides		F0842 Famciclovir CAS RN: 104227-87-4	H1290 9-(2-Hydroxyethyl)adenine CAS RN: 707-99-3
E0899 Entecavir Monohydrate CAS RN: 209216-23-9	A1915 Acyclovir CAS RN: 59277-89-3	P2164 Penciclovir CAS RN: 39809-25-1	G0315 Ganciclovir CAS RN: 82410-32-0	A3228 Triacetylganciclovir CAS RN: 86357-14-4
D4256 Diethyl [[2-(6-Amino-9H-purin-9-yl)ethoxy]methyl]phosphonate CAS RN: 116384-53-3	A2414 Adefovir Dipivoxil CAS RN: 142340-99-6	V0111 Valacyclovir Hydrochloride CAS RN: 124832-27-5	D3065 2',3'-Dideoxyadenosine CAS RN: 4097-22-7	D3066 Didanosine CAS RN: 69655-05-6
D0046 2'-Deoxyadenosine Monohydrate CAS RN: 16373-93-6	D4137 2'-Deoxyadenosine Anhydrous CAS RN: 958-09-8	D3584 2'-Deoxyinosine CAS RN: 890-38-0	D4292 5,6-Dichlorobenzimidazole 1-β-D-Ribofuranoside CAS RN: 53-85-0	C2499 Cladribine CAS RN: 4291-63-8
D0052 2'-Deoxyguanosine Hydrate CAS RN: 961-07-9	N1144 Nelarabine CAS RN: 121032-29-9	C2206 6-Chloropurine Riboside CAS RN: 5399-87-1	A0152 Adenosine CAS RN: 58-61-7	M2291 2'-O-Methyladenosine CAS RN: 2140-79-6
I0037 Inosine CAS RN: 58-63-9	B3460 N ⁶ -Dibenzoyladenosine 2',3'-Dibenzoate CAS RN: 58463-04-0	F0656 2-Fluoroadenosine CAS RN: 146-78-1	T2691 2',3',5'-Tri-O-acetyl-6-chloro-2-iodopurine Riboside CAS RN: 5987-76-8	T2692 2',3',5'-Tri-O-acetylguanosine CAS RN: 6979-94-8
A2054 2-Amino-6-chloropurine Riboside CAS RN: 2004-07-1	C2192 2-Chloroadenosine CAS RN: 146-77-0	A2135 2-Aminoadenosine CAS RN: 2096-10-8	G0171 Guanosine CAS RN: 118-00-3	M2318 2'-O-Methylguanosine CAS RN: 2140-71-8

X0008 Xanthosine Dihydrate CAS RN: 146-80-5 100mg	I0759 2-Iodo-adenosine CAS RN: 35109-88-7 200mg 1g 5g	C2500 Clofarabine CAS RN: 123318-82-1 20mg 100mg	V0098 Vidarabine Monohydrate CAS RN: 24356-66-9 1g 5g	A2739 Ara-G CAS RN: 38819-10-2 10mg 50mg
O0401 8-Oxo-adenosine CAS RN: 29851-57-8 200mg 1g	I0700 N ² -Isobutyryl-2'-deoxyguanosine CAS RN: 68892-42-2 100mg 1g	I0699 N ² -Isobutyrylguanosine Monohydrate CAS RN: 64350-24-9 100mg 1g	I0702 2',3'-O-isopropylideneadenosine CAS RN: 362-75-4 5g 25g	I0704 2',3'-O-isopropylideneinosine CAS RN: 2140-11-6 5g
I0703 2',3'-O-isopropylidene-guanosine CAS RN: 362-76-5 5g	B3093 N ⁶ -Benzoyladenosine CAS RN: 4546-55-8 1g 5g	B3101 N ⁶ -Benzoyl-2'-deoxyadenosine Hydrate CAS RN: 206752-42-3 100mg 1g	D4228 Dibutyryl cAMP Sodium Salt CAS RN: 16980-89-5 25mg	B3103 N ⁶ -Benzoyl-5'-O-(4,4'-dimethoxytrityl)-2'-deoxyadenosine CAS RN: 64325-78-6 100mg 1g
I0697 N ² -Isobutyryl-5'-O-(4,4'-dimethoxytrityl)-2'-deoxyguanosine CAS RN: 68892-41-1 1g 5g				

Nucleotides and Their Analogs

Nucleotides are formed from the condensation of nucleoside and a phosphate group. The nucleosides themselves are formed from a nucleobase (see below) and a sugar moiety

which is either ribose (RNA) or 2'-deoxyribose (DNA). Nucleotides are the minimum structural units of DNA and RNA, and serve as important cofactors in metabolism.

Nucleotides and Their Analogs

Pyrimidine Nucleotides

D3673 2'-Deoxycytidine 5'-Monophosphate Hydrate CAS RN: 1032-65-1 100mg 1g
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T0845 Thymidine 5'-Monophosphate Disodium Salt CAS RN: 33430-62-5 100mg

U0021 Uridine 5'-Monophosphate Disodium Salt Hydrate CAS RN: 3387-36-8 5g 25g

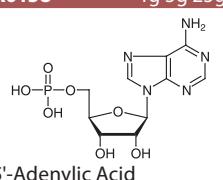
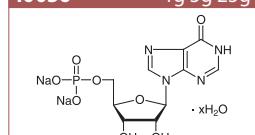
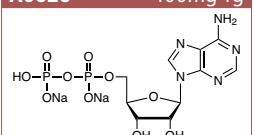
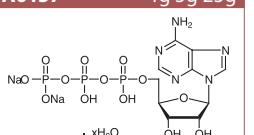
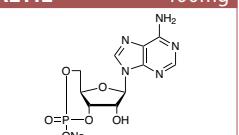
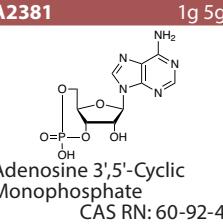
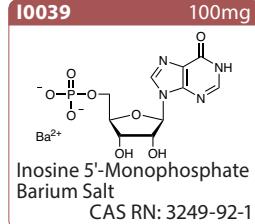
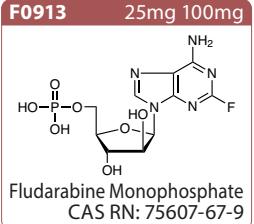
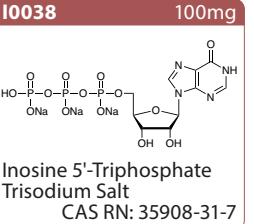
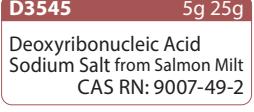
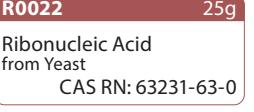
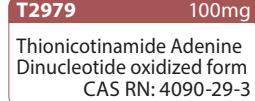
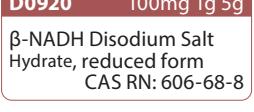
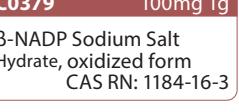
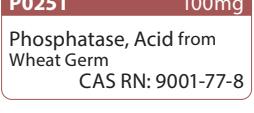
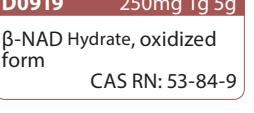
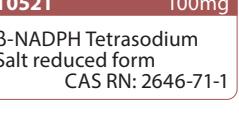
C0524 Cytidine 5'-Monophosphate Disodium Salt CAS RN: 6757-06-8 1g 5g

C1675 Cytidine 5'-Monophosphate CAS RN: 63-37-6 1g 5g

Purine Nucleotides

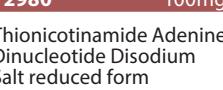
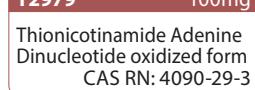
C0523 Cytidine 5'-Diphosphate Trisodium Salt CAS RN: 34393-59-4 10mg 100mg 1g

Nucleosides, Nucleotides, Nucleic Acids and Related Reagents

A0158  5'-Adenylic Acid CAS RN: 61-19-8	I0036  Inosine 5'-Monophosphate Disodium Salt Hydrate CAS RN: 352195-40-5	A0626  Adenosine 5'-Diphosphate Disodium Salt CAS RN: 16178-48-6	A0157  Adenosine 5'-Triphosphate Disodium Salt Hydrate CAS RN: 34369-07-8	A2112  Adenosine 3',5'-Cyclic Monophosphate Sodium Salt CAS RN: 37839-81-9
A2381  Adenosine 3',5'-Cyclic Monophosphate CAS RN: 60-92-4	I0039  Inosine 5'-Monophosphate Barium Salt CAS RN: 3249-92-1	F0913  Fludarabine Monophosphate CAS RN: 75607-67-9	I0038  Inosine 5'-Triphosphate Trisodium Salt CAS RN: 35908-31-7	
D3545  Deoxyribonucleic Acid Sodium Salt from Salmon Milt CAS RN: 9007-49-2	R0022  Ribonucleic Acid from Yeast CAS RN: 63231-63-0	R0024  Ribonucleic Acid Sodium Salt from Yeast		
T2980  Thionicotinamide Adenine Dinucleotide Disodium Salt reduced form	T2979  Thionicotinamide Adenine Dinucleotide oxidized form CAS RN: 4090-29-3	D0920  β-NADH Disodium Salt Hydrate, reduced form CAS RN: 606-68-8	N0943  β-NADP CAS RN: 53-59-8	C0379  β-NADP Sodium Salt Hydrate, oxidized form CAS RN: 1184-16-3
P0251  Phosphatase, Acid from Wheat Germ CAS RN: 9001-77-8	D0919  β-NAD Hydrate, oxidized form CAS RN: 53-84-9	T0521  β-NADPH Tetradsodium Salt reduced form CAS RN: 2646-71-1		

Nucleic Acids

Enzymes and Coenzymes related to Nucleic Acids

T2980  Thionicotinamide Adenine Dinucleotide Disodium Salt reduced form	T2979  Thionicotinamide Adenine Dinucleotide oxidized form CAS RN: 4090-29-3
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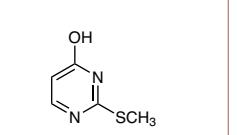
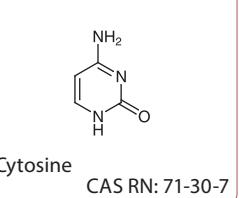
Nucleobases and Their Analogs

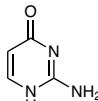
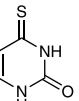
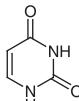
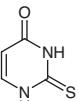
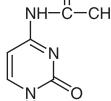
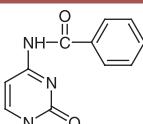
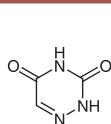
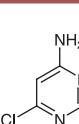
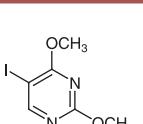
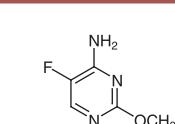
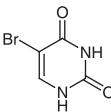
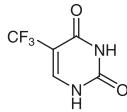
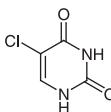
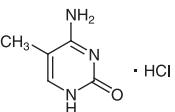
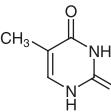
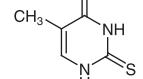
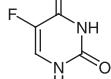
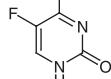
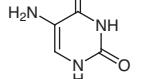
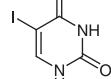
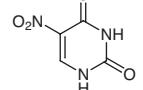
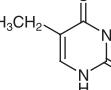
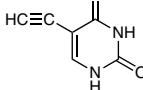
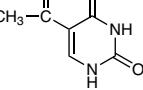
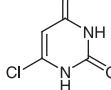
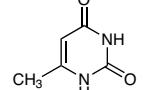
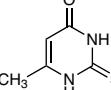
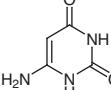
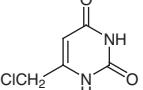
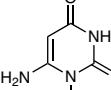
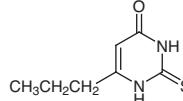
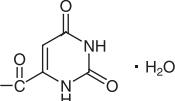
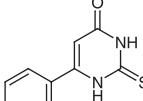
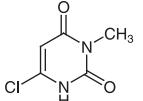
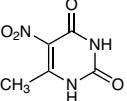
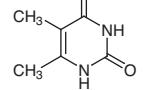
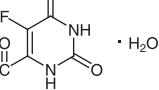
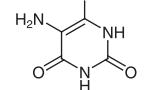
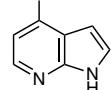
Nucleobases, usually simply called "bases", are a vital sense component of DNA and RNA. The bases can be divided into two groups based on the structure: purines such as adenine and guanine; and pyrimidines such as cytosine, thymine and uracil. Other nucleobases can be created by the modification

of these basic structures. For example, hypoxanthine and xanthine are generated in living systems through deamination of adenine and guanine, respectively. Furthermore, nucleobase analogue 5-fluorouracil (5-FU) is used as an anticancer agent. Derivatives of 2-fluoroadenine have been widely reported as prodrug forms of anticancer agents.

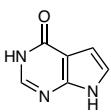
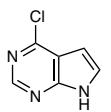
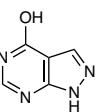
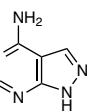
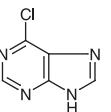
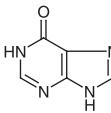
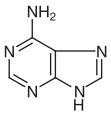
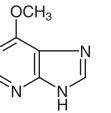
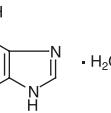
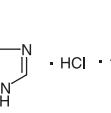
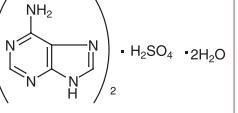
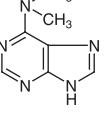
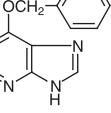
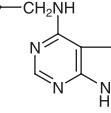
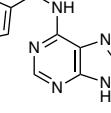
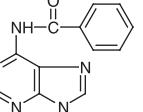
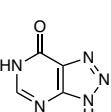
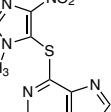
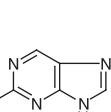
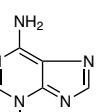
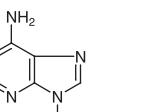
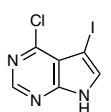
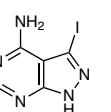
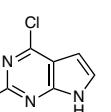
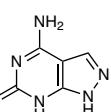
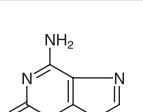
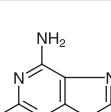
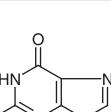
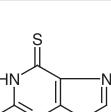
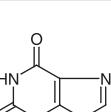
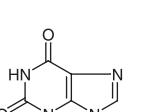
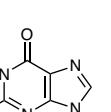
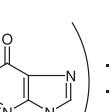
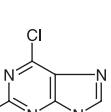
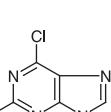
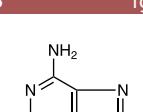
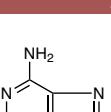
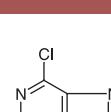
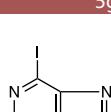
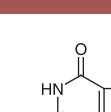
Nucleobases and Their Analogs

Pyrimidine Nucleobases

M2355  2-Methylthio-4-pyrimidinol CAS RN: 5751-20-2	C0528  Cytosine CAS RN: 71-30-7
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I0814 Isocytosine CAS RN: 108-53-2	T2757 4-Thiouracil CAS RN: 591-28-6	U0013 Uracil	T0224 2-Thiouracil CAS RN: 141-90-2	A2089 <i>N</i> ⁴ -Acetylcytosine CAS RN: 14631-20-0
				
B3169 <i>N</i> ⁴ -Benzoylcytosine CAS RN: 26661-13-2	A0558 6-Azauracil CAS RN: 461-89-2	A2136 4-Amino-6-chloropyrimidine CAS RN: 5305-59-9	I0531 5-Iodo-2,4-dimethoxypyrimidine CAS RN: 52522-99-3	A2125 4-Amino-5-fluoro-2-methoxypyrimidine CAS RN: 1993-63-1
				
B0665 5-Bromouracil CAS RN: 51-20-7	T1622 5-(Trifluoromethyl)uracil CAS RN: 54-20-6	C0969 5-Chlorouracil CAS RN: 1820-81-1	M0204 5-Methylcytosine Hydrochloride CAS RN: 5836-64-6	T0234 Thymine CAS RN: 65-71-4
				
M0994 5-Methyl-2-thiouracil CAS RN: 636-26-0	F0151 5-Fluorouracil CAS RN: 51-21-8	F0321 5-Fluorocytosine CAS RN: 2022-85-7	A0898 5-Aminouracil CAS RN: 932-52-5	I0219 5-Iodouracil CAS RN: 696-07-1
				
N0281 5-Nitouracil CAS RN: 611-08-5	E0807 5-Ethyluracil CAS RN: 4212-49-1	E1096 5-Ethynyluracil CAS RN: 59989-18-3	A2670 5-Acetyluracil CAS RN: 6214-65-9	C2093 6-Chlorouracil CAS RN: 4270-27-3
				
M0454 6-Methyluracil CAS RN: 626-48-2	M0443 6-Methyl-2-thiouracil CAS RN: 56-04-2	A0658 6-Aminouracil CAS RN: 873-83-6	C1057 6-Chloromethyluracil CAS RN: 18592-13-7	A2449 6-Amino-1-methyluracil CAS RN: 2434-53-9
				
P0533 6-Propyl-2-thiouracil CAS RN: 51-52-5	00065 Orotic Acid Monohydrate CAS RN: 50887-69-9	P0236 6-Phenyl-2-thiouracil CAS RN: 36822-11-4	C2300 6-Chloro-3-methyluracil CAS RN: 4318-56-3	M2506 6-Methyl-5-nitouracil CAS RN: 16632-21-6
				
D1136 5,6-Dimethyluracil CAS RN: 26305-13-5	F0382 5-Fluoroornithine CAS RN: 220141-70-8	A0947 5-Aminoornithine CAS RN: 7164-43-4	Purine Nucleobases	C2470 4-Chloro-1 <i>H</i> -pyrrolo[2,3- <i>b</i>]pyridine CAS RN: 55052-28-3
				

Nucleosides, Nucleotides, Nucleic Acids and Related Reagents

D4324  7-Deazahypoxanthine CAS RN: 3680-71-5	C2306  6-Chloro-7-deazapurine CAS RN: 3680-69-1	A0907  Allopurinol CAS RN: 315-30-0	A1041  4-Aminopyrazolo[3,4-d]pyrimidine CAS RN: 2380-63-4	C0278  6-Chloropurine CAS RN: 87-42-3
H0311  Hypoxanthine CAS RN: 68-94-0	A0149  Adenine CAS RN: 73-24-5	M1925  6-Methoxypurine CAS RN: 1074-89-1	M0063  6-Mercaptopurine Monohydrate CAS RN: 6112-76-1	A0150  Adenine Hydrochloride Hemihydrate CAS RN: 6055-72-7
A0151  Adenine Sulfate Dihydrate CAS RN: 6509-19-9	D3894  6-(Dimethylamino)purine CAS RN: 938-55-6	B3355  6-Benzylxopurine CAS RN: 57500-07-9	B1088  N ⁶ -Benzyladenine CAS RN: 1214-39-7	K0009  Kinetin CAS RN: 525-79-1
B3344  N ⁶ -Benzoyladenine CAS RN: 4005-49-6	A0555  8-Azahypoxanthine CAS RN: 2683-90-1	A2069  Azathioprine CAS RN: 446-86-6	A1111  2-Aminopurine CAS RN: 452-06-2	M2518  3-Methyladenine CAS RN: 5142-23-4
H1290  9-(2-Hydroxyethyl)adenine CAS RN: 707-99-3	C3130  6-Chloro-7-iodo-7-deazapurine CAS RN: 123148-78-7	I0941  3-Iodo-1H-pyrazolo[3,4-d]pyrimidin-4-amine CAS RN: 151266-23-8	D4284  2,6-Dichloro-7-deazapurine CAS RN: 90213-66-4	A2699  AHPP CAS RN: 5472-41-3
I0370  Isoguanine CAS RN: 3373-53-3	F0647  2-Fluoroadenine CAS RN: 700-49-2	G0169  Guanine CAS RN: 73-40-5	T0212  6-Thioguanine CAS RN: 154-42-7	T0225  2-Thioxanthine CAS RN: 2487-40-3
X0004  Xanthine CAS RN: 69-89-6	G0170  Guanine Hydrochloride CAS RN: 635-39-2	G0168  Guanine Sulfate Dihydrate CAS RN: 10333-92-3	D2470  2,6-Dichloropurine CAS RN: 5451-40-1	C2221  6-Chloro-2-fluoropurine CAS RN: 1651-29-2
C2575  2-Chloroadenine CAS RN: 1839-18-5	D1625  2,6-Diaminopurine Monohydrate CAS RN: 402846-48-4	A1407  2-Amino-6-chloropurine CAS RN: 10310-21-1	A2068  2-Amino-6-iodopurine CAS RN: 19690-23-4	A1248  2-Acetamido-6-hydroxypurine CAS RN: 19962-37-9

N0958	20mg 100mg	
NU 2058	CAS RN: 161058-83-9	
D4295	1g 5g	
5,6-Dichlorobenzimidazole Hydrochloride	CAS RN: 1087737-96-9	
D3604	25g	
N ² ,9-Diacetylguanine	CAS RN: 3056-33-5	
M2073	5g 25g	
3-Methylxanthine	CAS RN: 1076-22-8	
M2432	50mg 200mg	
1-Methylxanthine	CAS RN: 6136-37-4	
A2805	25g 100g	
Aminophylline	CAS RN: 317-34-0	
B4134	1g	
8-Bromo-3-methylxanthine	CAS RN: 93703-24-3	
B4454	200mg 1g	
8-Bromo-7-(2-butyn-1-yl)-3-methylxanthine	CAS RN: 666816-98-4	
B3456	1g 5g	
8-Bromotheophylline	CAS RN: 10381-75-6	
C0293	25g 250g	
8-Chlorotheophylline	CAS RN: 85-18-7	
D5146	1g 5g	
5,6-Dichlorobenzimidazol	CAS RN: 6478-73-5	
X0007	1g 5g	
Xanthopterin Hydrate	CAS RN: 5979-01-1	

Pharmacologically-Active Nucleosides and Nucleobases for Research and Experimental Use

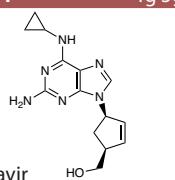
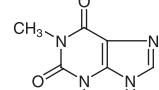
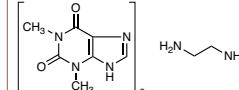
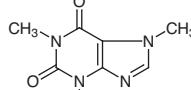
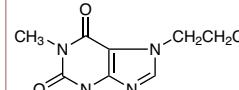
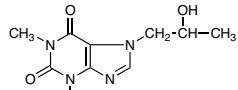
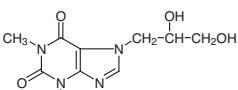
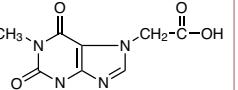
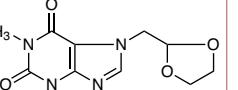
Typical nucleosides and nucleobases used in pharmacology

research are shown below, and serve as important cofactors in metabolism.

Pharmacologically-Active Nucleosides and Nucleobases for Research and Experimental Use		
F0151	1g 5g 25g	
5-Fluorouracil	CAS RN: 51-21-8	
F0321	1g 5g 25g 500g	
5-Fluorocytosine	CAS RN: 2022-85-7	
F1296	25mg 100mg	
Favipiravir	CAS RN: 259793-96-9	
R0077	100mg 500mg	
Ribavirin	CAS RN: 36791-04-5	
M2399	50mg 250mg	
Mizoribine	CAS RN: 50924-49-7	
A2528	50mg	
Acadesine	CAS RN: 2627-69-2	
L0217	100mg 1g	
Lamivudine	CAS RN: 134678-17-4	
A2232	20mg 100mg	
Decitabine	CAS RN: 2353-33-5	
C2035	1g 5g	
Cytarabine	CAS RN: 147-94-4	
A2033	100mg 1g	
5-Azacytidine	CAS RN: 320-67-2	
D4823	200mg 1g	
PSI-6206	CAS RN: 863329-66-2	
G0367	100mg 1g	
Gemcitabine Hydrochloride	CAS RN: 122111-03-9	
F0635	5g 25g	
Tegafur	CAS RN: 17902-23-7	

Nucleosides, Nucleotides, Nucleic Acids and Related Reagents

D3580 Stavudine CAS RN: 3056-17-5	A2052 Azidothymidine CAS RN: 30516-87-1	B1575 5-Bromo-2'-deoxyuridine CAS RN: 59-14-3	T2511 Trifluorothymidine CAS RN: 70-00-8	D2235 2'-Deoxy-5-fluorouridine CAS RN: 50-91-9
I0258 Idoxuridine CAS RN: 54-42-2	B3404 Brivudine CAS RN: 69304-47-8	D3579 Doxifluridine CAS RN: 3094-09-5	F0636 5-Fluorouridine CAS RN: 316-46-1	D4342 5'-Deoxy-5-fluorocytidine CAS RN: 66335-38-4
C2878 Capecitabine CAS RN: 154361-50-9	A0907 Allopurinol CAS RN: 315-30-0	M0063 6-Mercaptopurine Monohydrate CAS RN: 6112-76-1	K0009 Kinetin CAS RN: 525-79-1	A2069 Azathioprine CAS RN: 446-86-6
A2737 PP 3 CAS RN: 5334-30-5	A2414 Adefovir Dipivoxil CAS RN: 142340-99-6	D3066 Didanosine CAS RN: 69655-05-6	D3065 2',3'-Dideoxyadenosine CAS RN: 4097-22-7	V0098 Vidarabine Monohydrate CAS RN: 24356-66-9
C2689 Cordycepin from <i>Cordyceps militaris</i> CAS RN: 73-03-0	D4228 Dibutyryl cAMP Sodium Salt CAS RN: 16980-89-5	D4292 DRB CAS RN: 53-85-0	H1542 Hydroxocobalamin Acetate CAS RN: 22465-48-1	M2742 Methylcobalamin Hydrate CAS RN: 288315-09-3
C2499 Cladribine CAS RN: 4291-63-8	C2500 Clofarabine CAS RN: 123318-82-1	F0913 Fludarabine Monophosphate CAS RN: 75607-67-9	A2739 Ara-G CAS RN: 38819-10-2	F0842 Famciclovir CAS RN: 104227-87-4
A2699 AHPP CAS RN: 5472-41-3	T0212 6-Thioguanine CAS RN: 154-42-7	N0958 NU 2058 CAS RN: 161058-83-9	T2744 Temozolomide CAS RN: 85622-93-1	A1915 Acyclovir CAS RN: 59277-89-3
P2164 Penciclovir CAS RN: 39809-25-1	G0315 Ganciclovir CAS RN: 82410-32-0	E0899 Entecavir Monohydrate CAS RN: 209216-23-9	V0111 Valacyclovir Hydrochloride CAS RN: 124832-27-5	V0158 Valganciclovir Hydrochloride CAS RN: 175865-59-5

A2694  Abacavir CAS RN: 136470-78-5	T0179  Theophylline CAS RN: 58-55-9	A2805  Aminophylline CAS RN: 317-34-0	H0402  Etofylline CAS RN: 519-37-9	C2042  Caffeine CAS RN: 58-08-2
C2748  7-(2-Chloroethyl)theophylline CAS RN: 5878-61-5	H1430  Proxyphylline CAS RN: 603-00-9	D3600  Diprophylline CAS RN: 479-18-5	T2941  Theophylline-7-acetic Acid CAS RN: 652-37-9	D4302  Doxofylline CAS RN: 69975-86-6

Nucleic Acid Synthesis Agents

Silylation converts insoluble nucleobases into lipophilic trimethylsilylated derivatives, which are readily soluble in organic solvents, permitting homogenous chemical reactions. The trimethylsilylated nucleobases react with protected sugars to afford nucleosides. The procedure is commonly referred to as the Hilbert-Johnson reaction modified by Vorbrüggen *et al.*

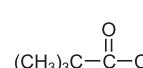
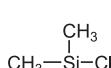
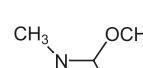
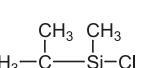
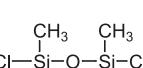
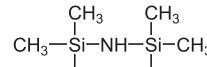
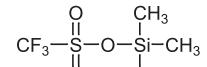
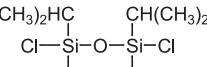
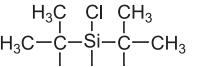
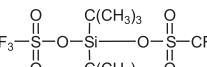
Phosphorylating and phosphorothioating agents, condensing agents and protecting agents for hydroxy and amino groups are of importance in the synthesis of DNA and RNA chains. Active research on chemical synthesis of DNA and RNA is being conducted, and a variety of synthetic methods using these agents are being developed.

The dicyclohexylcarbodiimide (DCC) method exemplified by the Khorana group, the phosphotriester method and phosphitetriester method by the team of Letsinger and the phosphoramidite method by the Caruthers group are examples of the various synthetic methods. Recently, the phosphoramidite method has been used frequently in tandem with the penetration of DNA synthesizers, thus 2-cyanoethyl *N,N,N'*-tetraisopropylphosphordiamidite has been the reagent of frequent choice for the phosphorylation due to its ease in handling and safety.³⁾ 1,2,4-Triazole and 1*H*-tetrazole are also used for chemical conversion of uridines into cytidines.

Chemically synthesized DNA is becoming important as a primer for the PCR method, an antisense molecule, or an element of the DNA computer.

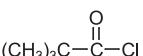
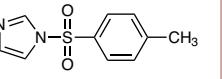
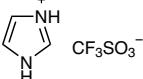
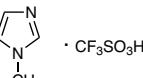
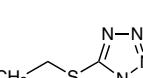
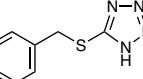
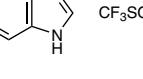
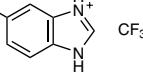
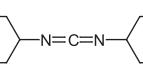
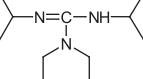
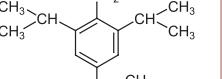
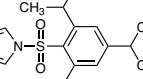
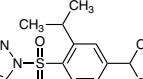
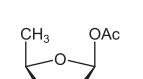
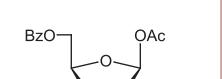
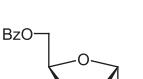
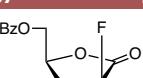
Nucleic Acid Synthesis Agents

Protecting Agents for Hydroxy and Amino Groups

P0677  Pivaloyl Chloride CAS RN: 3282-30-2	C0306  Chlorotrimethylsilane CAS RN: 75-77-4	D1293  N,N-Dimethylformamide Dimethyl Acetal CAS RN: 4637-24-5	B0995  TBSCl CAS RN: 18162-48-6	D2334  1,3-Dichloro-1,1,3,3-tetramethylidisiloxane CAS RN: 2401-73-2
H0089  HMDS CAS RN: 999-97-3	T0871  Trimethylsilyl Trifluoromethanesulfonate CAS RN: 27607-77-8	D1608  1,3-Dichloro-1,1,3,3-tetrasopropylidisiloxane CAS RN: 69304-37-6	D2469  Di-tert-butyl dichlorosilane CAS RN: 18395-90-9	D3135  Di-tert-butylsilyl Bis(trifluoromethanesulfonate) CAS RN: 85272-31-7

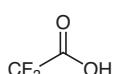
Nucleosides, Nucleotides, Nucleic Acids and Related Reagents

B0511 10mL 100mL BSA CAS RN: 10416-59-8	P0113 25g 500g Phenoxyacetyl Chloride CAS RN: 701-99-5	B0105 25mL 500mL Benzoyl Chloride CAS RN: 98-88-4	M0721 5g 25g 100g 500g 4-Methoxybenzoyl Chloride CAS RN: 100-07-2	N0404 5g 25g 2-Nitrobenzyl Bromide CAS RN: 3958-60-9	
T0459 25g 100g 500g 2,4,6-Triisopropylbenzenesulfonyl Chloride CAS RN: 6553-96-4	B1151 5g 1,3-Benzodithioliylum Tetrafluoroborate CAS RN: 57842-27-0	C0832 25g 100g 500g 4-Chlorophenoxyacetyl Chloride CAS RN: 4122-68-3	B0078 25g 100g 500g Benzoic Anhydride CAS RN: 93-97-0	T1071 5g 25g 4,4',4''-Tris(benzyloxy)-trityl Bromide CAS RN: 86610-66-4	
B1223 5mL 25mL 100mL tert-Butyldiphenylchlorosilane CAS RN: 58479-61-1	C0308 25g 100g 500g Trityl Chloride CAS RN: 76-83-5	T0512 25g 100g Trityl Bromide CAS RN: 596-43-0	D2504 25g 2-Chlorotrityl Chloride CAS RN: 42074-68-0	M0790 25g 100g 250g 4-Methoxytrityl Chloride CAS RN: 14470-28-1	
D1612 5g 25g 4,4'-Dimethoxytrityl Chloride CAS RN: 40615-36-9	Phosphorylating and Phosphorothioating Agents		M0905 10g Methyl Dichlorophosphite CAS RN: 3279-26-3	M0904 5g 25g 100g Methyl Phosphorodichloridate CAS RN: 677-24-7	
D0624 25g 500g Diethyl Chlorothiophosphate CAS RN: 2524-04-1	C0978 5g 25g Barium 2-Cyanoethylphosphate Hydrate CAS RN: 207121-42-4	D2883 25g Diphosphoryl Chloride CAS RN: 13498-14-1	B5440 200mg 1g Bis(tetrabutylammonium) Dihydrogen Pyrophosphate CAS RN: 857447-79-1	C2228 1g 5g 2-Cyanoethyl N,N,N',N''-Tetraisopropylphosphordiamidite CAS RN: 102691-36-1	
D4211 1g 5g Di-tert-butyl N,N-Diisopropylphosphoramidite CAS RN: 137348-86-8	C1215 5g 25g 2-Chloro-1,3,2-dioxa-phospholane CAS RN: 822-39-9	C1250 5g 25g 2-Chloro-2-oxo-1,3,2-dioxaephospholane CAS RN: 6609-64-9	P0209 25g 500g Phenyl Dichlorophosphate CAS RN: 770-12-7	C0977 5g 25g 4-Chlorophenyl Phosphorodichloridate CAS RN: 772-79-2	
C0976 5g 2-Chlorophenyl Phosphorodichloridate CAS RN: 15074-54-1	C1210 5g 25g 2-Chloro-4H-1,3,2-benzodioxaphosphorin-4-one CAS RN: 5381-99-7	C3326 200mg 1g 5-Chlorosaligenyl-N,N-diisopropylphosphoramidite CAS RN: 1620086-77-2	B3125 1g 5g Beaucage Reagent CAS RN: 66304-01-6	X0001 25g 100g 500g Xanthane Hydride CAS RN: 6846-35-1	
D1059 25g 100g 500g Diphenyl Chlorophosphate CAS RN: 2524-64-3	P1223 1g Tetrabenzyl Pyrophosphate CAS RN: 990-91-0	B3623 5g 25g Bis(phenylacetyl) Disulfide CAS RN: 15088-78-5	D2624 5g Dibenzyl N,N-Diisopropylphosphoramidite CAS RN: 108549-23-1	Condensing Agents	

P0677 25mL 500mL  Pivaloyl Chloride CAS RN: 3282-30-2	T0340 5g 25g 100g 500g  1,2,4-Triazole CAS RN: 288-88-0	N0477 1g 5g  3-Nitro-1,2,4-triazole CAS RN: 24807-55-4	T1985 5g 25g  1-(p-Toluenesulfonyl)-imidazole CAS RN: 2232-08-8	I1157 1g 10g  Imidazolium Triflate CAS RN: 29727-06-8
M3214 5g 25g  1-Methylimidazole Triflate CAS RN: 99257-94-0	P2822 5g 25g  1-Phenyl-1H-imidazol-3-ium Triflate CAS RN: 361447-81-6	P0640 25g 100g 500g  5-Mercapto-1-phenyl-1H-tetrazole CAS RN: 86-93-1	M1081 25g 500g  5-Mercapto-1-methyltetrazole CAS RN: 13183-79-4	E0670 1g 5g  5-(Ethylthio)-1H-tetrazole CAS RN: 89797-68-2
B3020 25g  5-(Benzylthio)-1H-tetrazole CAS RN: 21871-47-6	D2026 25g 250g  4,5-Dicyanoimidazole CAS RN: 1122-28-7	B6329 1g 5g  2-Bromo-4,5-dicyanoimidazole CAS RN: 50847-09-1	C2325 5g 25g  1,1'-Carbonyldi(1,2,4-triazole) CAS RN: 41864-22-6	B6330 1g 10g  Benzimidazolium Triflate CAS RN: 99257-95-1
N1214 1g 10g  5-Nitrobenzimidazolium Triflate CAS RN: 574704-91-9	M3384 5g 25g  N-Methyl benzimidazolium Triflate CAS RN: 361447-89-4	P2920 5g 25g  Pyridinium Trifluoroacetate CAS RN: 464-05-1	P1637 25g 100g 500g  Pyridine Hydrochloride CAS RN: 628-13-7	D0436 25g 400g  DCC CAS RN: 538-75-0
D3792 5g 25g  N,N'-Dicyclohexyl-4-morpholinocarboxamidine CAS RN: 4975-73-9	C2421 5g  1-(Cyanomethyl)-piperidinium Tetrafluoroborate CAS RN: 434937-12-9	M0071 25g 100g 500g  2-Mesitylenesulfonyl Chloride CAS RN: 773-64-8	T0459 25g 100g 500g  2,4,6-Triisopropylbenzenesulfonyl Chloride CAS RN: 6553-96-4	T1410 5g 25g  1-(2,4,6-Triisopropylbenzenesulfonyl)imidazole CAS RN: 50257-40-4
T2951 1g 5g  1-(2,4,6-Triisopropylbenzenesulfonyl)-1,2,4-triazole CAS RN: 54230-60-3	M1186 5g 25g  2,4-Mesitylenedisulfonyl Dichloride CAS RN: 68985-08-0	T1562 5g  2,4,5,6-Tetramethylbenzenedisulfonyl Dichloride CAS RN: 97997-76-7	Riboses and 2'-Deoxyriboses	
T2607 5g 25g  1,2,3-Tri-O-acetyl-5-deoxy-beta-D-ribofuranose CAS RN: 62211-93-2	M1965 1g 5g  Methyl beta-D-Ribofuranoside CAS RN: 7473-45-2	R0066 5g 25g  Tetra-O-acetyl-beta-D-ribofuranose CAS RN: 13035-61-5	R0067 5g 25g  Beta-D-Ribofuranose 1-Acetate 2,3,5-Tribenzoate CAS RN: 6974-32-9	T2641 5g 25g  1,3,5-Tri-O-benzoyl-alpha-D-ribofuranose CAS RN: 22224-41-5
D4207 1g 5g  2-Deoxy-2,2-difluoro-D-erythro-pentonic Acid gamma-Lactone 3,5-Dibenzoate CAS RN: 122111-01-7	D4594 1g 5g  2-Deoxy-2-fluoro-1,3,5-tri-O-benzoyl-alpha-D-arabinofuranose CAS RN: 97614-43-2	R0025 25g 250g  D(-)-Ribose CAS RN: 50-69-1	R0068 1g 5g 25g  L-Ribose CAS RN: 24259-59-4	R0080 1g  Beta-L-Ribofuranose 1-Acetate 2,3,5-Tribenzoate CAS RN: 3080-30-6

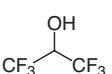
Deprotection Reagents

T0431 25g 100g 500g



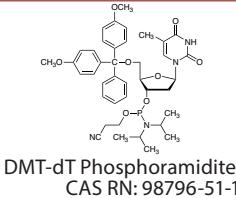
Trifluoroacetic Acid
CAS RN: 76-05-1

H0424 25g 100g 250g 500g



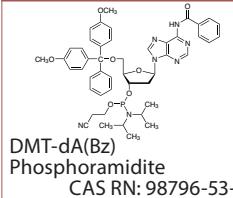
HFIP
CAS RN: 920-66-1

D5702 1g



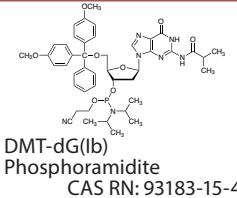
DMT-dT Phosphoramidite
CAS RN: 98796-51-1

D5707 1g



DMT-dA(Bz)
Phosphoramidite
CAS RN: 98796-53-3

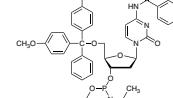
D5708 1g



DMT-dG(lb)
Phosphoramidite
CAS RN: 93183-15-4

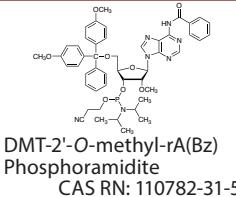
Nucleoside Phosphoramidites

D5701 1g



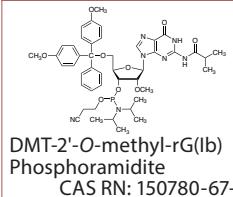
DMT-dC(bz)
Phosphoramidite
CAS RN: 102212-98-6

D5709 250mg



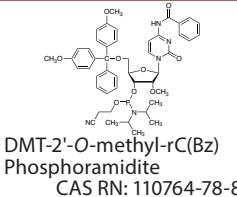
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Phosphoramidite
CAS RN: 110782-31-5

D5710 250mg



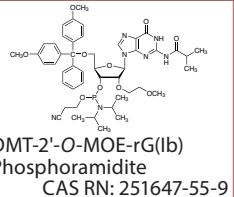
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Phosphoramidite
CAS RN: 150780-67-9

D5942 250mg



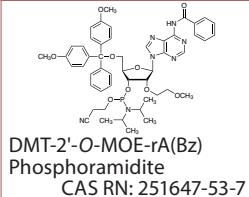
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Phosphoramidite
CAS RN: 110764-78-8

M3371 250mg



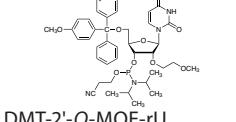
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Phosphoramidite
CAS RN: 251647-55-9

M3372 250mg



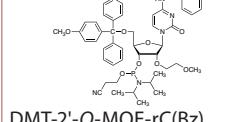
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Phosphoramidite
CAS RN: 251647-53-7

M3373 250mg



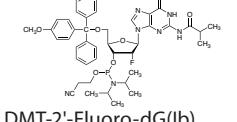
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Phosphoramidite
CAS RN: 163759-97-5

M3374 250mg



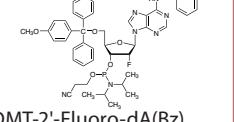
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Phosphoramidite
CAS RN: 251647-54-8

D5939 250mg



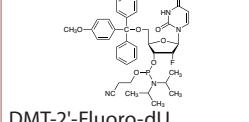
DMT-2'-Fluoro-dG(lb)
Phosphoramidite
CAS RN: 144089-97-4

D5940 250mg



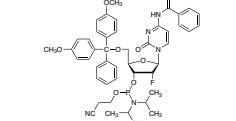
DMT-2'-Fluoro-dA(Bz)
Phosphoramidite
CAS RN: 136834-22-5

D5941 250mg



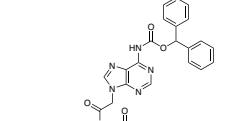
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Phosphoramidite
CAS RN: 146954-75-8

D5943 250mg



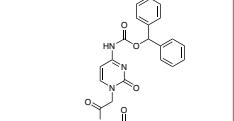
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Phosphoramidite
CAS RN: 161442-19-9

D5931 1g



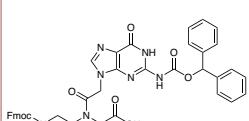
Fmoc-PNA-A(Bhoc)-OH
CAS RN: 186046-82-2

D5932 1g



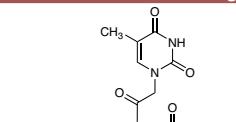
Fmoc-PNA-C(Bhoc)-OH
CAS RN: 186046-81-1

D5933 1g



Fmoc-PNA-G(Bhoc)-OH
CAS RN: 186046-83-3

D5934 1g



Fmoc-PNA-T-OH
CAS RN: 169396-92-3

Peptide Nucleic Acid (PNA) Monomers

References

- 1) H. Vorbrüggen, C. Ruh-Pohlenz, in *Handbook of Nucleoside Synthesis*, Wiley-Interscience, New York, **2001**; H. Vorbrüggen, C. Ruh-Pohlenz, in *Organic Reactions*, ed. by L. A. Paquette *et al.*, John Wiley & Sons, **2000**, Vol. 55; D. M. Huryn, M. Okabe, *Chem. Rev.* **1992**, 92, 1745; E. Ichikawa, K. Kato, *Curr. Med. Chem.* **2001**, 8, 385.
- 2) Z. Liu, S. Liu, Z. Xie, W. Blum, D. Perrotti, P. Paschka, R. Klisovic, J. Byrd, K. K. Chan, G. Marcucci, *Nucleic Acids Res.* **2007**, 35, e31; A. Alcázar Magaña, K. Wrobel, Y. Alvarado Caudillo, S. Zaina, G. Lund, K. Wrobel, *Anal. Biochem.* **2008**, 374, 378; M. Münzel, D. Globisch, T. Brückl, M. Wagner, V. Welzmiller, S. Michalakis, M. Müller, M. Biel, T. Carell, *Angew. Chem. Int. Ed.* **2010**, 49, 5375.
- 3) I. Okamoto, K. Shohda, K. Seio, M. Sekine, *J. Org. Chem.* **2003**, 68, 9971; A. Misra, S. Mishra, K. Misra, *Bioconjugate Chem.* **2004**, 15, 638.; R. Gukathasan, M. Massoudipour, I. Gupta, A. Chowdhury, S. Pulst, S. Ratnam, Y. S. Sanghvi, S. A. Laneman, *J. Organomet. Chem.* **2005**, 690, 2603.

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