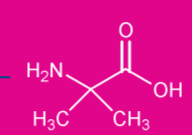


PERIODIC CHART OF *unusual* α -AMINO ACIDS

APIs ■ PEPTIDES ■ BUILDING BLOCKS ■ BIOCHEMICALS ■ CUSTOM SYNTHESIS ■ OLIGONUCLEOTIDES

3-Letter Amino Acid Code — **Aib**

Chemical Structure — 

Relative Molecular Mass — 103.12
 $M_r - H_2O$ — 85.11

Molecular Formula — $C_4H_9NO_2$

Chemical Name — **α -Aminoisobutyric acid**

- Basic
- Nonpolar (hydrophobic)
- Polar, uncharged
- Acidic

Agl¹⁾ 90.08 72.06 $C_2H_5N_2O_2$ α -Aminoglycine	Dab 118.14 100.12 $C_5H_{10}N_2O_2$ α,γ -Diaminobutyric acid					Orn 132.16 114.15 $C_6H_{12}N_2O_2$ Ornithine	Dap 109.11 86.09 $C_5H_{10}N_2O_2$ α,β -Diaminopropionic acid	Dha¹⁾ 87.08 69.06 $C_4H_9NO_2$ Dehydro-alanine	Flu 107.09 89.07 $C_5H_9FNO_2$ β -Fluoroalanine	Clal 123.54 105.52 $C_5H_9ClNO_2$ β -Chloroalanine	Iodo 214.99 196.97 $C_5H_9INO_2$ β -Iodoalanine	Abu 103.12 85.11 $C_5H_9NO_2$ α -Aminobutyric acid	NC 114.10 96.09 $C_5H_9NO_2$ β -Cyanooalanine	Smc 135.18 117.17 $C_5H_9NO_2S$ S -Methylcysteine	Hcy 135.19 117.17 $C_5H_9NO_2S$ Homocysteine	Gla 191.14 173.13 $C_6H_{11}NO_4$ γ -Carboxyglutamic acid
2,6-Diamino-4-hexynoic acid 142.16 124.14 $C_6H_{10}N_2O_2$	(1-Piperazinyl)-alanine 173.22 155.20 $C_7H_{12}N_4O_2$	Aib 103.12 85.11 $C_4H_9NO_2$ α -Aminoisobutyric acid	(1-Cyclopropyl)-alanine 129.16 111.14 $C_5H_9NO_2$	Aze 101.11 83.09 $C_4H_7NO_2$ Azetidine-2-carboxylic acid	(1-Allyl)-glycine 115.13 97.12 $C_5H_9NO_2$	Pra 113.12 95.10 $C_5H_9NO_2$ Propargylglycine	aThr 119.12 101.11 $C_5H_9NO_2$ allo-Threonine	Pyr 129.12 111.10 $C_5H_7NO_2$ Pyroglutamic acid	OTZ 147.16 129.14 $C_6H_9NO_2S$ 2-Oxothiazolidine-4-carboxylic acid	Aad 161.16 143.14 $C_6H_9NO_4$ α -Aminoadipic acid						
4,5-Dehydro-lysine 144.17 126.16 $C_6H_{10}N_2O_2$	(8-Hydroxy)lysine 162.19 144.17 $C_7H_{12}N_2O_3$	Tba 145.20 127.19 $C_6H_{11}NO_2$ tert-Butylalanine (neopentylglycine)	(2-Thiazolyl)-alanine 172.21 154.19 $C_6H_9N_2O_2S$	Thz 133.17 115.16 $C_5H_7NO_2S$ Thiazoline	Dhp 115.12 95.10 $C_5H_7NO_2$ 3,4-Dehydropipriline	Tle 131.17 113.16 $C_6H_{11}NO_2$ tert-Butylglycine	Uro 147.13 129.12 $C_6H_{11}NO_2$ β -Ureidoalanine	Cit 175.19 157.17 $C_7H_{13}N_2O_2$ Citrulline	Hci 189.21 171.20 $C_7H_{13}NO_2$ Homocitrulline	Apm 175.19 157.17 $C_7H_{13}NO_2$ 2-Aminoheptanedioic acid						
Homocarginine 202.26 184.24 $C_8H_{18}N_4O_2$	Homocarginine 188.23 170.21 $C_7H_{14}N_4O_2$	(1-Cyclopentyl)-alanine 157.21 139.20 $C_6H_{11}NO_2$	(1-Cyclohexyl)-alanine 171.24 153.22 $C_7H_{13}NO_2$	(1-Methyl)proline 129.16 111.14 $C_5H_9NO_2$	Nva 117.15 99.13 $C_5H_9NO_2$ Norvaline	(1-Methyl)valine 131.17 113.16 $C_6H_{11}NO_2$	Hypr 131.13 113.12 $C_5H_9NO_2$ Hydroxyproline	Dopa 197.19 179.17 $C_9H_9NO_4$ 3,4-Dihydroxyphenylalanine	(1,2,4-Triazol-1-yl)-alanine 156.14 138.13 $C_5H_8N_4O_2$	Asu 189.21 171.20 $C_7H_{11}NO_4$ α -Aminosuberic acid						
(1,2-Dimethyl)arginine 202.26 184.24 $C_8H_{18}N_4O_2$	(1-Methyl)arginine 188.23 170.21 $C_7H_{14}N_4O_2$	Penicillamine 149.21 131.20 $C_5H_9NO_2S$	(1,2-Dicyclohexyl)-alanine 253.38 235.37 $C_{11}H_{21}NO_2$	(4-Fluoro)proline 133.12 115.11 $C_5H_8FNO_2$	(1-Methyl)cyclopentanecarboxylic acid 129.16 111.14 $C_6H_{11}NO_2$	Pip 129.16 111.14 $C_6H_{11}NO_2$ Pipercolic acid (Homoproline)	Pap 187.22 169.21 $C_8H_9NO_2S$ 2-Mercaptosthistidine	(3,4-Dihydroxyphenyl)-serine 213.19 195.17 $C_9H_9NO_4$	(2-Thienyl)-serine 187.22 169.20 $C_8H_9NO_2S$	(4-Carboxy)phenylalanine 209.20 191.19 $C_9H_9NO_4$						
(1,2-Quinoly)-alanine 216.24 198.22 $C_{11}H_{13}NO_2$	(4-Aminopiperidine-4-carboxylic acid) 144.17 126.16 $C_6H_{10}N_2O_2$	alle 129.16 111.14 $C_5H_9NO_2$ allo-Isoleucine	Nle 131.17 113.16 $C_6H_{11}NO_2$ Norleucine	(1-Methyl)leucine 145.20 127.19 $C_7H_{13}NO_2$	Chg 157.21 139.20 $C_7H_{13}NO_2$ Cyclohexylglycine	(4-Azido)phenylalanine 206.20 188.19 $C_9H_9NO_2$	(4-Cyano)phenylalanine 190.20 172.19 $C_9H_9NO_2$	(3-Hydroxy)methyltyrosine 211.22 193.20 $C_{10}H_{11}NO_4$	(2-Thienyl)-tyrosine 211.22 193.20 $C_{10}H_{11}NO_2S$	Cys 169.16 151.14 $C_3H_7NO_2S$ Cysteic acid						
(1-Methyl)histidine 169.18 151.17 $C_7H_{11}NO_2$	(2,5-Diiodohistidine) 406.95 388.93 $C_7H_8I_2NO_2$	Oic 169.22 151.21 $C_7H_9NO_2$ cis-Octahydroindole-2-carboxylic acid	(2-Thienyl)-alanine 171.22 153.20 $C_7H_9NO_2S$	Phg 151.17 133.16 $C_8H_9NO_2$ Phenylglycine	(1-Methyl)phenylalanine 179.22 161.20 $C_9H_9NO_2$	Homophenylalanine 179.22 161.20 $C_9H_9NO_2$	(3-Iodo)tyrosine 307.09 289.07 $C_9H_9INO_2$	(3-Nitro)tyrosine 226.19 208.17 $C_9H_9NO_4$	(3,5-Dinitro)tyrosine 271.19 253.17 $C_9H_7NO_6$	(3,5-Diiodo)tyrosine 432.98 414.97 $C_9H_7I_2NO_2$						
(1-Methyl)histidine 169.18 151.17 $C_7H_{11}NO_2$	(3-Methyl)histidine 169.18 151.17 $C_7H_{11}NO_2$	Tic 177.20 159.19 $C_8H_9NO_2$ 1,2,3,4-Tetrahydroisoquinoline-3-carboxylic acid	(1-Naphthyl)-alanine 177.20 159.19 $C_{10}H_9NO_2$ 1,2,3,4-Tetrahydroisoquinoline-3-carboxylic acid	Nph 221.28 203.26 $C_{11}H_9NO_2$ β -(3-Benzothienyl)-alanine	(4-Iodo)phenylalanine 210.19 192.17 $C_9H_9INO_2$	(4-Bromo)phenylalanine 244.09 226.07 $C_9H_9BrNO_2$	(4-tert-Butyl)phenylalanine 221.30 203.28 $C_{12}H_{15}NO_2$	(3,5-Dibromo)tyrosine 336.98 320.97 $C_9H_7Br_2NO_2$	(3,5-Diiodo)tyrosine 432.98 414.97 $C_9H_7I_2NO_2$	(4-Phospho)phenylalanine 245.17 227.16 $C_9H_9NO_4P$						
Spinacine 167.17 149.15 $C_7H_9NO_2$	(4-Amino)phenylalanine 180.21 162.19 $C_9H_9NO_2$	(2-Naphthyl)-alanine 215.25 197.24 $C_{10}H_9NO_2$	(1-Naphthyl)-alanine 215.25 197.24 $C_{10}H_9NO_2$	(4-Fluoro)phenylalanine 215.25 207.23 $C_9H_9FNO_2$	(3-Fluoro)phenylalanine 183.18 165.17 $C_9H_9FNO_2$	(4-Fluoro)phenylalanine 183.18 165.17 $C_9H_9FNO_2$	(4-Fluoro)phenylalanine 183.18 165.17 $C_9H_9FNO_2$	(7-Hydroxy-1,2,3,4-tetrahydroisoquinoline-3-carboxylic acid) 183.20 175.19 $C_9H_9NO_4$	(2,4-Dinitrophenylamino)-alanine 270.20 252.18 $C_{10}H_{11}NO_4$	(4-Sulfomethyl)phenylalanine 259.28 241.27 $C_{10}H_{11}NO_3S$						
(3-Amino)tyrosine 196.21 178.19 $C_9H_9NO_2$	(2-Pyridyl)-alanine 166.18 148.16 $C_8H_9NO_2$	(3-Pyridyl)-alanine 166.18 148.16 $C_8H_9NO_2$	(4-Chloro)phenylalanine 199.64 181.62 $C_9H_8ClNO_2$	(3,4-Dichloro)phenylalanine 234.08 216.07 $C_9H_7Cl_2NO_2$	(2,6-Di-fluoro)-phenylalanine 201.17 183.15 $C_9H_7F_2NO_2$	(N-methyl)tryptophan 218.26 200.24 $C_{12}H_{13}N_2O_2$	(3-Carboxy)tryptophan 216.24 198.22 $C_{11}H_{11}NO_4$	Thy 273.29 255.27 $C_{10}H_{11}NO_4$ Thyrosine	(7-Methoxycoumarin-4-yl)-alanine 263.25 245.23 $C_{17}H_{15}NO_4$	(4-(7-Hydroxy-4-coumarinyl)-aminobutyric acid) 263.25 245.23 $C_{17}H_{15}NO_4$						
		Dip 241.29 223.27 $C_{14}H_{11}NO_2$ β,β -Diphenylalanine			Bip 241.29 223.27 $C_{14}H_{11}NO_2$ 4-Phenylphenylalanine			Bpa 269.30 251.28 $C_{16}H_{13}NO_2$ 4-Benzoylphenylalanine								

1) only derivatives available 2) trans and cis derivatives available