

AMINO ACIDS CLASSIFICATION

BASED ON STRUCTURE

Classified into three groups:

1. Neutral amino acids
 - a) Aliphatic amino acids
 - b) Hydroxy amino acids
 - c) Aromatic amino acids
 - d) Heterocyclic amino acids
 - e) Imino acids
 - f) Sulfur containing amino acids
2. Acidic amino acids
3. Basic amino acids

<u>ALIPHATIC AMINO ACIDS</u> 1. Glycine 2. Isoleucine 3. Valine 4. Alanine 5. Leucine	<u>HYDROXY AMINO ACIDS</u> 1. Serine 2. Threonine 3. Tyrosine	<u>AROMATIC AMINO ACIDS</u> 1. Phenylalanine 2. Tyrosine 3. Tryptophan
<u>HETEROCYCLIC AMINO ACIDS</u> 1. Tryptophan 2. Histidine	<u>IMINO ACID</u> 1. Proline 2. Hydroxyproline	<u>SULFUR CONTAINING AMINO ACIDS</u> 1. Cysteine 2. Methionine
<u>ACIDIC AMINO ACIDS AND THEIR AMIDES</u> 1. Aspartic acid 2. Glutamic acid 3. Asparagine 4. Glutamine	<u>BASIC AMINO ACIDS</u> 1. Arginine 2. Lysine 3. Histidine 4. Hydroxylysine	

NUTRITIONAL CLASSIFICATION

<u>ESSENTIAL AMINO ACIDS</u> (MATTVILPhLy) 1. Methionine 2. Arginine 3. Tryptophan 4. Threonine 5. Valine 6. Isoleucine 7. Leucine 8. Phenylalanine 9. Lysine	<u>NON-ESSENTIAL AMINO ACIDS</u> 1. Glycine 2. Alanine 3. Serine 4. Cysteine 5. Aspartate 6. Asparagine 7. Glutamate 8. Glutamine 9. Tyrosine 10. Proline	<u>SEMI-ESSENTIAL AMINO ACIDS</u> (Ah) 1. Arginine 2. Histidine
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NON- STANDARD AMINO ACIDS

Basic structure similar to amino acids but not present in proteins.	D-AMINO ACIDS
<ol style="list-style-type: none">1. β-alanine2. taurine3. Ornithine4. Citrulline5. Thyroxine (T4)6. Tri-iodo thyronine (T3)7. GABA8. β - amino isobutyric acid9. δ-aminolaevulinic acid (δ-ALA)10. S-adenosyl methionine11. 3,4-dihydroxy phenyl alanine (DOPA)	<ol style="list-style-type: none">1. D-glutamic acid2. D-alanine3. D-aspartate4. D-serine