**Lesson 16 – Metabolism of amino acids**

**1. Decarboxyilation**

What is decarboxylation of amino acids?

What enzyme is required for the amino acid decarboxylation?

What vitamin is required for the amino acid decarboxylation?

Fill in the table

|  |  |  |
| --- | --- | --- |
| Subsrate | Product | Function of product |
| Lysine |  |  |
| Glutamate |  |  |
| Serine |  |  |
| Tryptophan |  |  |
| Histidine |  |  |
| Cysteine |  |  |
| Ornithine |  |  |

**2. Transamination of amino acids**

[What is the function of transamination of amino acids?](https://www.google.com/search?sxsrf=ALiCzsZThLadWSMF10i_vOrMywoqyNg6SQ:1657010106343&q=What+is+the+function+of+transamination+of+amino+acids?&spell=1&sa=X&ved=2ahUKEwjfkZzWq-H4AhXIUXcKHVeMBkUQkeECKAB6BAgBEDc)

What vitamin is required for the amino acid transamination?

Where does transamination of amino acids occur ?

Why are transaminases (aminotransferases) used for diagnosis?

Fill in the table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Enzyme | Enzyme class | Substrates | Products | What happens in the reaction? |
|  |  | Alanine |  |  |
|  |  | Aspartate |  |  |

**3. Oxidative deamination**

What is oxidative deamination?

What amino acid undergoes oxidative deamination in the human body?

How are other amino acids deaminated?

What is the function of oxidative deamination?

**4. Glycogenic and ketogenic amino acids**

What are glycogenic and ketogenic amino acids?

Give examples of such amino acids.

How can alanine be converted to glucose?

How can alpha ketoglutarate be converted to glucose?

How is alanine broken down into carbon dioxide to form energy?