

Dear international students!

From 20th to 24th April, you will have **class № 29“Metabolism of amino acids – 1”**. In order for the class to be counted, you are supposed to write **at least 6-pages outline of the class,** containing answers to the questions listed in the training guidelines. These notes will be revised by your teachers after the end of the distance learning period.

THEORETICAL PART

1. Dynamic state of body proteins. Nitrogen balance.
2. Sources of amino acids in the body and ways of their use.
3. Digestion of proteins in the gastrointestinal tract. Absorption of amino acids.
4. Intestinal putrefaction of proteins (conversion of amino acids by intestinal bacteria).
5. General pathways of amino acid metabolism.
6. Transamination of amino acids, enzymes, biological role. Coenzyme function of vitamin B₆. Mechanism of transamination. Aminotransferases, their tissue specificity and diagnostic significance.
7. Types of deamination of amino acids. Oxidative deamination and reductive amination. Biological role.
8. Transdeamination. Biological role.

LITERATURE FOR TRAINING:

1. Harper's Illustrated Biochemistry / Robert K. Murray [et. al.]. – 28th ed. – New York [etc]: McGraw-Hill, Medical, 2009. – P. 234-236, 239-242, 462, 465.
2. Harper's Illustrated Biochemistry / Robert K. Murray [et. al.]. – 29th ed. – New York [etc]: McGraw-Hill, Medical, 2012. – P. 519-521, 265-270.
3. Harper's Illustrated Biochemistry / Robert K. Murray [et. al.]. – 31st ed. – New York [etc]: McGraw-Hill, Medical, 2018. – P. 131-132, 263-274, 280-283, 521-522.
4. Harper's Illustrated Biochemistry / Robert K. Murray [et. al.]. – **30th** ed. – New York [etc]: McGraw-Hill, Medical, 2015. – P. 539-541, 287-292., 297-299.
1. Biochemistry: manual for the medical faculty for international students (in English) / Н.Э. Петушок, А.А. Масловская, М.Н. Курбат. – Гродно: ГрГМУ, 2014. – P.183-199. (Chapter 24).
5. Lectures “Amino Acids-1” and “Amino Acids-2”.

Lectures on amino acids are available on the site on our department.

LABORATORY WORK

In the laboratory work “**Determination of Alanine Aminotransferase (AlAT) in blood serum**” you should write down values of extinction and activity of AlAT:

RESULT:

$$\Delta E = 0.11 ;$$

According to the standard graph the activity of alanine aminotransferase is ...**0.8** mmol/ L / h.

CONCLUSION: (Make your conclusion according to the clinical significance of the enzyme).

If you have questions on training you can contact your teachers through the e-mail addresses available on the department website (Russian and English version).

Please, report whether you have received this letter.

Department of Biochemistry