Tishakova T.S., Issaka Adamu, Saveliev V.V.

DETERMINATION OF QUANTITATIVE AMINO ACID COMPOSITION IN HERBAL RAW MATERIAL OF *Pulsatílla praténsis*

Medical and bioorganic chemistry department of KNMU

Scientific advisor: Syrovaya A.O.

Amino acids are one of the physiologically important groups of compounds, taking part in synthesis of specific tissue proteins, enzymes, nucleic acids, fats, hormones and other compounds necessary for living organisms. They are capable of maintaining normal function of organs and systems at extreme environment. Some acids are indicated for treatment of many pathological conditions of central nervous system and for prophylaxis. Up to present medicinal plants are not considered to be the source of easily digested form of amino acid in combination of other active substances aimed to use it for treatment of different pathologies. From this perspective we have been investigated amino acid composition of *Pulsatílla praténsis*. *Pulsatílla praténsis* is a perennial buttercup (*Ranunculus spp.*), which is widely spread in the flora of Ukraine and in European Russia.

Amino acid analyzer AAA 400 (Czech Republic) was used for study, this is highly specialized computerizing liquid chromatograph equipped by postcolumn detector system. Peak areas of identified amino acids were used for quantification.

As a result of studies of *Pulsatílla praténsis* 16 amino acids were found, 7 of them are essential (threonine, valine, methionine, isoleucine, leucine, phenylalanine, lysine). Found amino acids can be arranged in decreasing order of their composition in herbal raw material as follows: Glu > Asp > Leu > Lys > Gly > Val > Ser > Ala > Arg > Thr > Phe > His > Ile > Tyr > Pro > Met.

Predominant amino acids in *Pulsatílla praténsis* aremonoamino-dicarboxylic amino acids, such as aspartic acid and glutamic acid (16.76% and 11.01% of total amino acid composition, correspondingly). Composition of essential amino acids in investigated raw material is 37.74% of total amino acid composition, where leucine is uppermost (9.06%) along with other biologically active substances (phenol compounds, polysaccharides, organic acids, macro- and microelements). This stresses the importance of *Pulsatílla praténsis* and gives an opportunity to develop new medicinal products of sedative and hypnotic action on the base of investigated herbal raw materials. Amino acid composition of *Pulsatílla praténsis* has been studied first.