

pronounced therapeutic effect in the treatment of pustular skin lesions in cattle, suppresses the inflammatory reaction, reduces the duration of the inflammatory process. This, in turn, shortens the period of treatment by 4 days at average.

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THE IMPACT OF STRESS ON THE PHYSICAL, PSYCHOLOGICAL AND BEHAVIORAL HEALTH COMPONENTS OF STUDENTS

Topicality. The fact that the specificity of studying at the university makes great demands on students (every young person should not only demonstrate a high theoretical readiness, but also should possess the optimal moral and psychological preparedness for overcoming the encountered difficulties) is of common knowledge. However, the dynamics of the educational process with its uneven distribution of the working load and its increase during the examination sessions is a kind of probation for students. For this and a number of other reasons, yesterday's schoolchildren are experiencing stress, which is known to be a body condition that occurs in response to actual or anticipated difficulties in life. Stress sets off an alarm reaction in the body. With stress corticosteroids, which contribute to additional energy production, are released in increased amounts in the human body. Students do not use these hormones in full measure and a biochemical reaction that triggers a series of pathologies at the physiological and psychological level occurs.

The objectives. To study the impact of stress on the students' health, to identify the main stress triggers according to the opinion of undergraduates, to suggest possible ways to cope with stress due to pressures of their educational process.

Materials and methods. Authentic literature sources and electronic resources on the designated topic served as materials for this investigation. With the purpose of determining main stress triggers a survey was made in which students had to answer a number of suggested questions. An interview with an expert was also conducted to get a more detailed answer to the question concerning the ways to better manage the stress in the students' life.

Results and discussion. The results of the conducted survey have shown that students who feel unable to cope effectively with a challenge experience stress most often. Prolonged and repeated periods of stress make worse diseases of the stomach and intestines, such as duodenal ulcers, colitis, gastritis, result in frequent viral diseases, skin diseases, menstrual problems. They also cause headaches, tearfulness, raised blood pressure, decreased attention, reduced concentration, sleeping disorders, forgetfulness, fatigue. Irritability, aggressiveness, intolerance, attacks of anger and mental depression may also occur.

Conclusions. Thus, stress is one of the main factors contributing to

the deterioration of all health components of students. It is necessary to conduct trainings that will teach undergraduates to cope with stress and study successfully, without doing any harm to their health.

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THE ACTIVITY OF RECOMBINANT *TAQ*POLYMERASE ENZYMES PURIFIED BY MEANS OF DIFFERENT FAST PROTEIN LIQUID CHROMATOGRAPHY METHODS

Topicality. The isolation of pure proteins is able to delve into the mechanistic aspects of protein function and design of diagnostic and therapeutic tests and agents. DNA polymerase from *Thermus aquaticus* (*taq*) has become a common reagent in molecular biology because of its thermo stable utility in downstream applications such as PCR and DNA sequencing. Cloning of *E. coli* bacterial expression vectors which produce recombinant *taq*DNA polymerase has facilitated the enzyme preparation. Proteins are purified in active form on the basis of such characteristics as solubility, size, charge and specific binding affinity. Typically, purification methods of *taq*DNA polymerase from bacterial cultures involve selective precipitation and chromatographic methods of FPLC.

The objectives. To use different chromatographic methods for the purification of *taq*DNA polymerase to achieve high activity; to compare the activity of *taq*polymerase purified and to recommend the best purification method.

Materials and methods. The present investigation was conducted to study the activity of purified *taq*polymerase preparations at the analytical level using ammonium sulfate precipitation and three different chromatographic purification methods of FPLC including ion exchange, size exclusion and hydrophobic interactions. After the chromatographic purifications the collected *taq*fractions were concentrated and finally the activity and purity of the obtained *taq*preparations were compared to the results of chromatographic purifications with commercial *taq*DNA polymerase.

Results and discussion. It has been shown that, hydrophobic interaction chromatographic purification was not the best purification method to purify *taq*DNA polymerase as no activity was detected. Furthermore, both anion exchange and size exclusion have demonstrated the same activity as in case of commercial *taq*, though the recovery of protein and purity were high in size exclusion.

Conclusions. Thus, among the three subjected chromatographic purification methods of FPLC, size exclusion chromatography was the best one for the purification of recombinant *taq*DNA polymerase to achieve high activity, purity and yield.