



**ZAMONAVIY KLINIK
LABORATOR TASHXISI
DOLZARB MUAMMOLARI**
xalqaro ilmiy-amaliy
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INTRODUCTION OF MOLECULAR DIAGNOSTICS AND NEW TECHNOLOGIES IN MODERN MEDICAL AND BIOLOGICAL EXAMINATIONS

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Molecular diagnostics uses modern medical techniques such as mass spectrometry and gene chips for the expression patterns of genes and proteins. consists of studying the allele (genetic change).

The importance and relevance of molecular diagnostics. A set of modern techniques used to analyze biological markers, including the genome and proteome, consists of determining the individual's genetic code and how their cells express their genes. This technique is used to diagnose and monitor disease, determine risk, and decide which treatments work best for certain patients. Personalized modern technical medicine analyzes the specific characteristics of the patient and their diseases and offers molecular diagnostic perspectives. These tests are useful in a number of medical specialties, including infectious disease, oncology, human leukocyte antigen typing (which examines and determines the structure) provides an opportunity to thoroughly study immune function, and molecular diagnostics such as mass spectrometry and gene chips to obtain expression patterns of genes and proteins. uses modern methods. The samples (probes) obtained after cleaning the biomaterial are combined with the microtests on the chip and the reaction of the markers is observed. This method is used in oncology and cardiology (including the study of genetic predisposition), it is an accurate and sensitive method. Another important technique of molecular diagnostics and new technologies in modern medical and biological examinations is DNA Printing 3D. U printing technologies will create a unique new industry for printing and selling DNK. Millions of pieces of DNK are placed on tiny metal substrates and scanned by a computer, which eventually selects the strands that make up the entire sequence of the DNA chain.

Development from research tools: the development and industrialization of molecular biology analysis tools has made their use in clinics practical. A clinical laboratory requires high reliability standards, meaning diagnostics may require accreditation or compliance with medical device regulations. Laboratory data management systems help systematize these processes by tracking them. Through medical techniques in laboratories automation and sample barcoding maximize efficiency and reduce the potential for error or morbidity during manual processing, reporting of results.

Treatment and discussion: the study of single nucleotide polymorphisms of some patients at the molecular level, genetic differences in their DNK - helps

predict how quickly they metabolize certain drugs. That is, modern molecular diagnostics are also used in the field of pharmacogenomics. Advances in molecular biology have shown that some syndromes previously classified as a single disease are actually several subtypes with completely different causes and treatments. Molecular diagnostics help to determine the subtype - for example, infections and cancers - or consist of studying the genetic analysis of a disease with a hereditary component. We can also use modern techniques in molecular diagnostics to assess the risk of cancer. It is effective to analyze people with early stages of cancer using molecular tests when they do not have obvious symptoms. For example, the ColoGuard test is a modern technique in molecular diagnostics that can be used to screen people over the age of 55.

Conclusion. As the state support of DNK molecular diagnostics is increasing, the number of clinical analyzes for DNK detection will increase in the future, even for the detection of cancer. The introduction of modern medical technology and molecular diagnostics into the field of medicine is the basis for the development of medicine and the organization of reliable and affordable examinations for doctors.

References.

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LABORATORIYA TADQIQOTLARINING ZAMONAVIY IMKONIYATLARI

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Klinik laborator diagnostikasining rivojlanishi uchun laboratoriya tadqiqotlarini qo'llashning ilmiy asosliligiga va belgilangan vazifalarga to'g'ri keladigan ehtimolliq talqin vositalaridan foydalanish zarur. Laboratoriya tadqiqotining klinik ko'rsatmalarga kiritilishi, ushbu tadqiqotning bemorga tanlanishi va tayinlanishi kasallikda laboratoriya ko'rsatkichining ko'payishi yoki kamayishi to'g'risidagi fikrlar pozitsiyasidan emas, balki laborator diagnostika biomarkeri sifatida ilmiy jihatdan isbotlangan ma'lumotlar asosida amalga oshirilishi kerak. Shu qatorida usul va reagentlarning sezgirligi, aniqligi, prognostik qiymatigi kai ko'rsatkichlar ham ahamiyatli.

Hozirgi kunda ilmiy va laborator tadqiqotlarini amalga oshirish va baholashga bo'lgan ehtiyoj kuchayib bormoqda. Laboratoriya usullaridan foydalanish natijasida mustahkam o'rnatilgan an'anaviy tibbiyot nazariyasi va amaliyotini ishlab chiqish bilan ularning roli ortmoqda. Laboratoriya tadqiqotlarining zamonaviy nomenklaturasini o'rganish, laboratoriya