

Special aspects of patent research for the drug development

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Purpose: to analyze special aspects of patent research for the drug development.

Methods: studies were conducted using a database on the Internet: scientometric databases, the statistics of Ukrainian patent office, the State enterprise “The State Expert Center” of the Ministry of Health of Ukraine, weekly “Pharmacy”.

Results: patents for inventions in the field of pharmacy confer priority, authorship and the right to the patent holder to exclude others from using his invention and protect new development for a specified period from the creation and production of generic copies of the drug by other companies. Stage of patent research is always preceded by the drug development. There are following types of work on patent research in the drug development: identification of priority areas for the drug development; determination of patentability; definition of patent clearance.

The pharmaceutical industry refers to industries with the most intensive conduct of scientific research and is in line with the electronics and aerospace industries. Pharmaceutical companies have to constantly conduct active research projects to replace aging products, create new molecules, since the average period of “depreciation” of the drug is currently 5-7 years. In determining the priorities for drug development it has used literature search, which gives an idea of the achievements in the scientific field and the theoretical basis for a more detailed description. While the patent search provides an opportunity to learn about the commercially important decisions in this area and state of the art in the study area. Together these studies provide a complete picture of the technical level while the forecast trends in the future.

Already in the early studies it can predict the potential level of development, because publication dynamics of each branch of science is uneven and it can be

identified “hot spots”. “Hot spots” are certain themes, in which the amount of work is more than the industry average. Development in this priority area increases its chances of demand, but if the work does not contain any fundamentally new data, it will not be successful commercialization. If the research is devoted to a narrow category, leaving the areas of interest to most researchers and industry issues of health, its commercialization is complex, regardless of the value of the results. The most efficient in terms of the search for scientific resources in pharmacy is a collection of online access and advanced search capabilities, supports the logical and morphological search (database of the US National Center for Biotechnology Information NCBI: PubMed, PubChem, and others). It should be noted that the publication, occupying the first position in the ranking of scientometric databases have a strict system of review and place the most authoritative review articles scientists. The perspective is to analyze the top 10 journals in the industry in recent years. Thus, the best choice is branch of science, in which the number of studies increases. In the pharmacy most promising projects are drug developments for treatment of cardiovascular system, tuberculosis, cancer pathology, pathology of mother and child, biotechnology, research on the development of new technologies for the design of dosage forms et al.

Analysis of patent information is carried out using databases of patent offices, as well as their periodicals. Common means of access to the databases of patent offices is the Internet. Of interest is site Orange Book (Food and drug administration, USA), in which you can search for information on patenting, registration of medicines, active substances.

Ignoring or hasty passage of the patent search stage may result in: a superficial study of the art, poor preparation of the application, increase the term of the applicant's correspondence with the agency, refusal of a patent; unreliable patent protection; financial and time losses. Timely detection of competitive developments in the preliminary search may be partially or completely adjust research direction of the applicant in the scientific and industrial applications.

Conclusion: patent research, as well as acquisition of patent for drug development allows to exclude unfair act on the part of competitors, to develop a competitive drug that will increase the level of the domestic pharmaceutical industry.