

or she can create up to 100 new compounds in the same period of time. The work helps to find leads for potential drugs and significantly speeds up optimization of those leads.

Proteomics Information can be used to identify proteins associated with a disease, which computer software can then use as targets for new drugs. For example, if a certain protein is implicated in a disease, the three-dimensional structure of that protein provides the information a computer program needs to design drugs to interfere with the action of the protein. A molecule that fits the active site of an enzyme but cannot be released by the enzyme will inactivate the enzyme. This is the basis of new drug discovery tools, which aim to find new drugs to inactivate proteins involved in disease. As genetic differences among individuals are found, researchers will use these same techniques to develop personalized drugs that are more effective for the individual.

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