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Short Communication

How to Win Over Virus

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Abstract

The problems of search of preparations come into question for treatment HIV and COVID - 19

Keywords: Inhibitors of Proteases; HIV; COVID – 19

Introduction

In opinion of futurologists the most credible scenario of death of humanity is an offensive of viruses. While a fight against viruses does not suggest optimism. Viruses are a noncellular pathogen that can be reproduced only into living cages. They strike all types of organisms. Principle of action of viruses: they are inculcated checked and convert her into a factory on a synthesis itself, and then she is abandoned. On the estimations of researchers now 38,6 million people on Earth are infected by HIV. On the estimations of WHO from the moment of registration of the first case of disease of June, 5, 1981 25 million persons died of AIDS, that does him one of the most destructive epidemics. Pandemic of COVID - 19 overcame all earth. That will bring a morrow to us? A prophylaxis and treatment of viral diseases are a vaccination and inhibitors of replication of viruses. The viruses of HIV succeed to avoid an immune answer, because they change the sequence of amino acids of superficial proteins of virions often. To become fully contagious to the virus the proteolitic enzyme known as HIV-1 is needed protease. Taking into account it the large class of the preparations, named inhibitors inactivating this enzyme, is worked out.

Table of Contents of Researches

We conducted the analysis of chemical structures more than 20 such preparations set that among preparations there was not a single specific electoral action of inhibitor of protease of HIV and proteases of coronaviruses, i.e. preparations that, the proteases of viruses would preferentially block only. Unfortunately, they influence and on a 561 protease of human organism, causing heavy cork reactions. All investigational preparations partly contacted with the protease of viruses through the functional groups that formed hydrogen connections with the functional active atoms of proteases, but among them there were not connections that took character irreversible inhibitors. Our researches are them two parts

1). Development of new methodological approach for the construction of active centers of enzymes and receptors of inhibitors of proteases. 2). Decision of private tasks, in the constructions of active center of protease of HIV and coronaviruses of SARS - KOV - 2 and of development specific, irreversible, electoral action of inhibitors of protease of HIV and coronaviruses. They must be constructed so that to shut out the molecule of water after their co-operating with an enzyme to covalently chemical connections in order to avoid the reaction of hydrolysis. In this connection, constructed by us active center of protease of HIV and coronaviruses on their biological substrats with the use of design of 3D-structures through the models of atoms on Brigleb-Stuart quantum-chemical calculations of electronic structure and conformation. It was thus succeeded to build of formula specific, irreversible electoral action of inhibitors of protease of HIV. We suppose that over the use of similar inhibitors will bring to irreversible inhibition of protease, her deformation and destruction, id est the task of fight can be decided not only with RNA- by the virus of HIV, but also with any

other RNA- by viruses.

Presently we have a next scientific product

a) Methodology of constructing of chemical structural formulas of inhibitors of proteases of any type and class.

b) Chemical structural formulas of inhibitors of protease of HIV-1 and HIV-2

c) Chemical structural formulas of inhibitors of proteases of COVID- 19.

d) At presence of the worked-out methodology can be constructed formulas of inhibitors of any proteases of plants, bacteria, etc.

e) Further stages of work:

f) patenting,

g) synthesis of preparations; (preparations can be synthesized not only for medicine but also stock-raisings, plant-growers, etc.).

h) research of their biological activity.

Conclusion

International experience shows that creation of one similar preparation occupies on the average 7 to and to 3 milliards of dollars require expenses. In our case preparation can reach to the pharmacy already during 1-2, and there will be an on an order less than expense. Completion of works requires the effective financing. We invite to the collaboration for realization of scientific product and continuation of works on constructing of structural chemical formulas of agonists and antagonists, any enzymes and receptors.

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