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COVID-19

Credible Protein Targets and Curative Strategies for COVID-19: a Review

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Abstract

The pandemic of coronavirus infection 2019 (COVID-19) due to the serious respiratory condition created by the coronavirus 2 (SARS-CoV-2) presents a challenge to recognize effective strategies for management and treatment. In general, COVID-19 is an acute disease that can also be fatal, with an ongoing 10.2% case morbidity rate. Extreme illness may bring about death because of enormous alveolar damage and hemorrhage along with progressive respiratory failure. The rapidly expanding information with respect to SARS-CoV-2 research suggests a substantial number of potential drug targets. The most encouraging treatment to date is suggested to be with the help of remdesivir, hydroxychloroquine, and many such repurposed drugs. Remdesivir has a strong in vitro activity for SARS-CoV-2, yet it is not the drug of choice as affirmed by the US Food and Drug Administration and presently is being tried in progressing randomized preliminaries. The COVID-19 pandemic has been the worst worldwide general health emergency of this age and, possibly, since the pandemic influenza outbreak of 1918. The speed and volume of clinical preliminaries propelled to examine potential treatments for COVID-19 feature both the need and capacity to create abundant evidence even in the center of a pandemic. No treatments have been demonstrated as accurate and dependable to date. This review presents a concise precise of the targets and broad treatment strategies for the benefit of researchers.

Keywords COVID-19 · SARS-CoV-2 · Protein targets · Antisense therapy · Repurposed drugs

Abbreviations

COVID-19	Coronavirus infectious disease 2019
SARS-CoV-2	Severe acute respiratory disorder coronavirus 2
US	United States
HIV	Human immunodeficiency virus
2019-nCoV	2019- coronavirus
HCoV-229E	Human coronavirus 229E
HCoV-NL6	Human coronavirus NL6
HCoV-HKU1	Human coronavirus HKU1
MERS-CoV	Middle East respiratory syndrome
HCoV-OC43	Human coronavirus OC43
CoV	Coronavirus
RNA	Ribonucleic acid
M protein	Membrane protein
E protein	Envelope protein
S protein	Spike protein
N protein	Nucleocapsid protein
HE	Hemagglutinin esterases
ACE2	Angiotensin-converting enzyme 2
TM	Trimeric
ED	Ectodomain
MHV-A59	Mouse hepatitis virus strain A59
SM	Small membrane protein
RBD	Receptor-binding domain
TMD	Transmembrane domain
HnRNPA-1	Heterogeneous nuclear ribonucleoprotein A1
M_{Pro}	Membrane proteases
$3CL_{Pro}$	Cysteine-like protease
PL_{Pro}	Papain-like protease(s)
TGEV	Transmissible gastroenteritis virus

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