Image Article

iMedPub Journals
www.imedpub.com

Journal of Neoplasm
ISSN 2576-3903

2020
Vol.5 No.3:9

DOI: 10.36648/2576-3903.5.3.9

The Process of SARS-CoV-2 Entering Host Cells

Olive Martin*

Insight Medical Publishing, 483, Green Lanes, London, N13 4BS, UK

Received: July 29, 2020; **Accepted:** August 08, 2020; **Published:** August 30, 2020

***Corresponding author:** Olive Martin

contact@imedpub.com

Insight Medical Publishing, 483, Green Lanes, London, N13 4BS, UK

Tel: +1-702-508-2676

Citation: Martin O (2020) The Process of SARS-CoV-2 Entering Host Cells. J Neoplasm Vol.5 No.3:9.

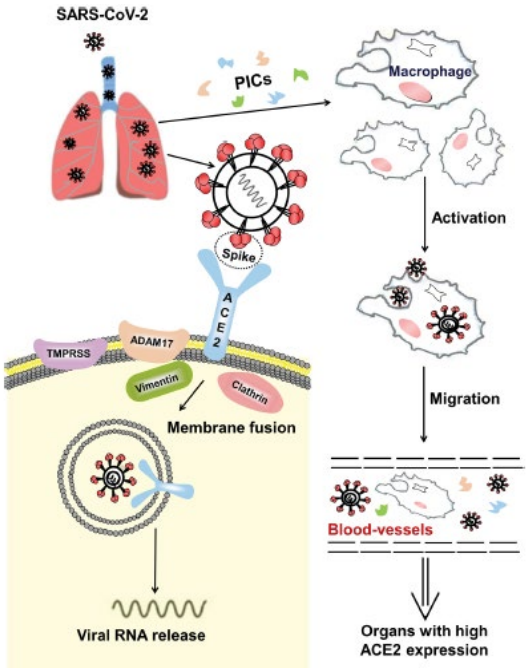

Figure 1 A model for the process of SARS-CoV-2 entering host cells in the lungs and attacking other organs. Entry into host cells is the first step of viral infection. A spike glycoprotein on the viral envelope of the corona virus can bind to specific receptors on the membrane of host cells. ACE2 may be a specific functional receptor for SARS-CoV and it can enter ACE2-expressing cells, but not cells without ACE2 or cells expressing other coronavirus receptors, such as aminopeptidase N and Dipeptidyl Peptidase 4 (DPP4), confirming that ACE2 is the cell receptor for SARS-CoV-2. Further showed that the binding affinity of the SARS-CoV-2 spike glycoprotein to ACE2 is 10 to 20 fold higher than that of SARS-CoV to ACE2.

SARS-CoV-2 enters the lungs, where the spike glycoprotein of the virus binds to ACE2 on cells, allowing the virus enter the cells. Some transmembrane proteinases, such as Transmembrane Protease Serine 2 (TMPRSS2) and a Disintegrin Metallopeptidase Domain 17 (ADAM17) also participate in this process. For example, SARS-CoV-2 can use TMPRSS2 for spike protein priming in cell lines. The infected cells and inflammatory cells stimulated by viral antigens can produce Pro-Inflammatory Cytokines (PICs) and chemokines to activate immunological reactions and inflammatory responses to combat the viruses. Cell-free and macrophage-phagocytosed viruses in the blood can be transmitted to other organs and infect ACE2-expressing cells at local sites.

© Under License of Creative Commons Attribution 3.0 License