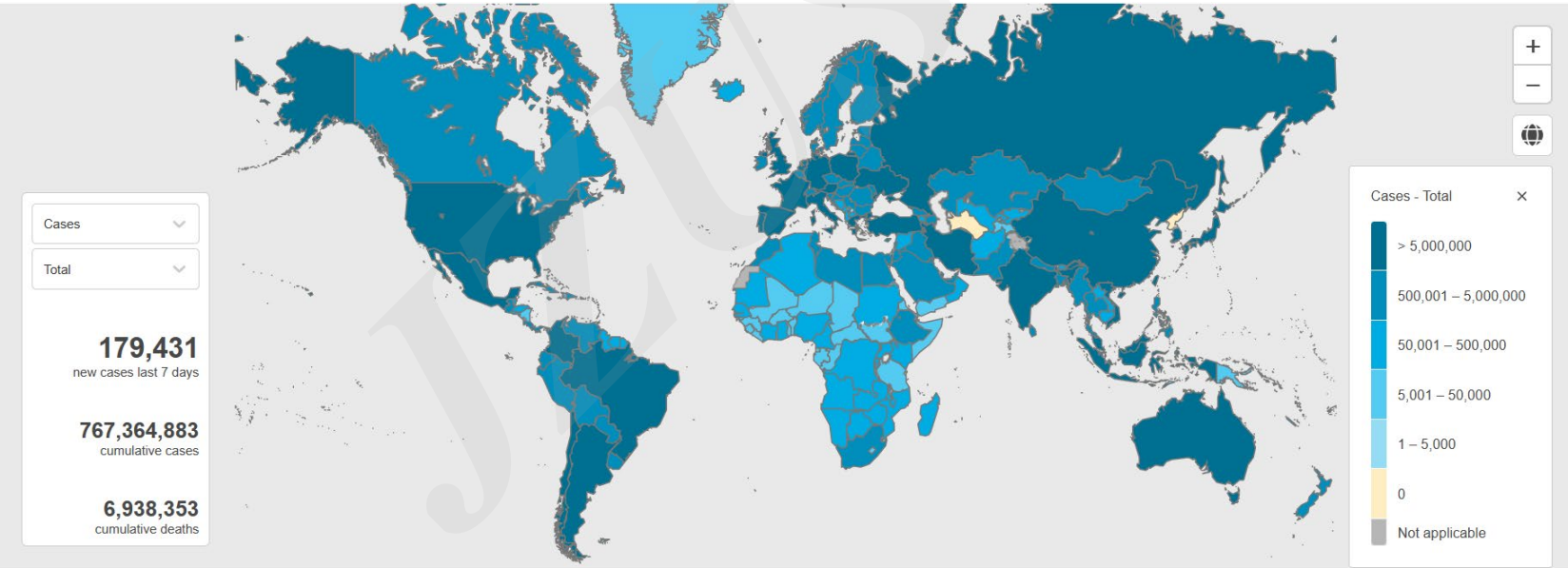
Cite this as: Xuqiang ZHOU, Weihua JIN, Di JIANG, Yipeng XU, Sanying WANG, Xinna WU, Yunchuang CHANG, Huili SU, Tianjun ZHU, Xiaogang XU, Genxiang MAO. Fucoidan sulfate from *Sargassum fusiforme* regulates the SARS-CoV-2 receptor AXL expression in human embryonic lung diploid fibroblast cells[J]. Journal of Zhejiang University Science B, 2023, 24(11): 1047-1052.
https://doi.org/10.1631/jzus.B2300087

Fucoidan sulfate from *Sargassum fusiforme* regulates the SARS-CoV-2 receptor AXL expression in human embryonic lung diploid fibroblast cells

Key words: SARS-CoV-2, Fucoidan sulfate, AXL, ACE2, Age

Research Summary

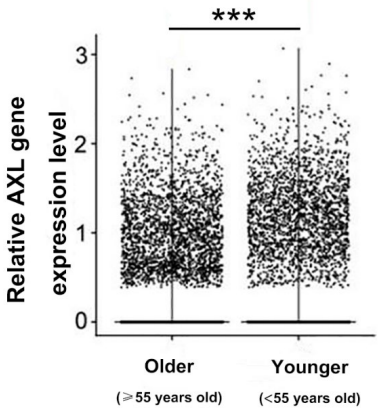
In this study, an elevated protein expression level of the AXL, a potential receptor for SARS-CoV-2, was proved in young 2BS cells, which indicated that it could be served as a potential model for artificial COVID-19 infection in vitro.
A purified component of *S. fusiforme* fucoidan sulfate, SFW-3, was observed to inhibit AXL protein and mRNA expression in young 2BS cells.



Picture Source: https://covid19.who.int/

Innovation points

- **AXL (a potential receptor for SARS-CoV-2) mRNA expression level is higher in younger people. Younger people may be more susceptible to COVID-19.**

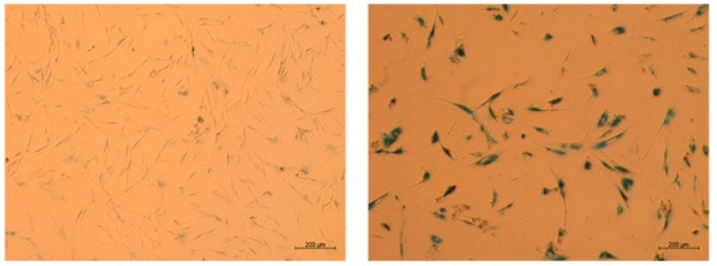




Picture Source: https://image.baidu.com/

- **A purified component of *S. fusiforme* fucoidan sulfate, SFW-3, was observed to inhibit AXL protein and mRNA expression.**

- **2BS senescence model could be served as a potential model for artificial COVID-19 infection in vitro.**



Young Senescence

SZUS-B

Innovation points

- **SFW-3 may inhibit AXL-mediated SARS-CoV-2 infection by down-regulating AXL expression.**

