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ASIA EDITION

Suntrap Life Technologies discovers natural anti-COVID-19 compound

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'LeSoleil', a naturally active compound, was discovered as a therapeutic candidate for use against COVID-19.

As the new coronavirus began to spread globally, Suntrap Life Technologies Ltd established a special research team. The project, "Research on Anti-New Coronavirus (COVID-19) Prevention Products", was launched in an emergency situation. Working from the naturally active compounds screening and discovery platform developed by the International Drug Discovery Network Unites (IDDNU)*, the Suntrap research team conducted high throughput virtual screening of all naturally active compounds in the library, aiming to isolate compounds with a potent antiviral activity while ensuring safety.

Consequently, 'LeSoleil', a potential therapeutic treatment was discovered. After further evaluation of its antiviral activity and safety, a sensitivity experiment with COVID-19 and 'LeSoleil' was scheduled in conjunction with Guangdong Provincial Center for Disease Control and Prevention and Guangdong Provincial Institute of Public Health. With core R&D progressing smoothly, the effective prevention, and treatment, of COVID-19 were coming into view.

The sensitivity experiment was started in August, lasting one month. The results indicated 'LeSoleil' has a potent in vitro inhibitory effect on COVID-19, with great potential to become a drug candidate. The experimental details showed that the TC50 (Half Toxicity Concentration) of 'LeSoleil' is 71.16 nM, within which the highest inhibitory rate for COVID-19 reached 99.41%. In addition, 'LeSoleil' retained a high inhibitory effect against COVID-19 even at low concentration, which has been particularly prominent in several verification experiments. The images show the viability of cells at a concentration of 114.8 nM, with an unexpected inhibition rate up to 63.06%.

Furthermore, the in vivo experiment showed LD50 of 'LeSoleil' is above 2000 mg/kg. As a naturally occurring compound, the plant-derived 'LeSoleil' has the advantages of low toxicity, good tolerance, and high accessibility, which provide a guarantee for the rapid development of multi-dose protective and therapeutic drug products.

The research team completed the formulation of "ShengPu No.1" and "ShengPu No.2", which provide protection against COVID-19 in the nasal cavity and the oral cavity, respectively, in a spray dosage form. In these formulations, the antiviral effects of 'LeSoleil' remain the best while ensuring safety. At the same time, drugs and clinically therapeutic formulations for the treatment of COVID-19 are being further explored.

Suntrap researchers hope to develop effective drugs for the prevention and treatment of the broad-spectrum coronavirus as soon as possible.

Image Caption: *Cell viability in COVID-19 sensitivity experiment - A: The cell control group, B: The virus control group, C: The drug test group *LeSoleil Concentration = 114.8 nM*