Fucoidan Against COVID-19: How Seaweed Compounds Could Help Fight the Virus

What Did Scientists Discover?

Researchers found that **sulfated polysaccharides**, particularly **fucoidans** from seaweed, can effectively block SARS-CoV-2 in lab tests. These compounds bind to the virus's spike protein (S-protein), preventing it from infecting cells.

Why Is This Important?

- **Fucoidan (RPI-27)** was **9 times more effective than remdesivir**, one of the main COVID-19 treatments.
- **Heparin** (a well-known anticoagulant) also showed antiviral activity, but fucoidan was stronger.
- These substances were **non-toxic** to cells, even at high doses.

How Does It Work?

The polysaccharides act as "decoys"—they bind to the virus and stop it from entering cells. **Branched molecules** (like fucoidan) are especially effective because they have more binding sites for the virus.

Potential Applications

- **Nasal sprays or inhalers** – to protect the respiratory tract.
- **Oral intake** – fucoidan is safe and absorbable when taken by mouth.
- **Combination with other drugs** – e.g., with anticoagulants to reduce COVID-related clotting risks.

Conclusion

Fucoidan and other sulfated polysaccharides are promising candidates for fighting coronavirus. They could become the basis for new preventive and therapeutic treatments, especially in localized forms (sprays, inhalers). However, further human trials are needed.

(Simplified summary of the scientific study by Paul S. Kwon et al., 2020)