

## Peer Review

# Review of: "The Contentious Origins of SARS-CoV-2: A Comprehensive Review of Current Knowledge"

Shan Gao<sup>1</sup>

1. College of Life Sciences, Nankai University, China

This preprint review article by Jose L Domingo, published on February 19, 2025, provides a comprehensive and up-to-date analysis of the origins of SARS-CoV-2, the virus responsible for the COVID-19 pandemic. The review synthesizes recent scientific evidence and debates surrounding two primary hypotheses: natural zoonotic spillover and laboratory-related emergence. The COVID-19 pandemic has had profound impacts on global health, prompting extensive scientific research into the virus's origins. Understanding the source of SARS-CoV-2 is crucial for preventing future pandemics. Please consider such comments.

1. Currently, the foremost challenge in tracing the origins of SARS-CoV-2 is the scarcity of viral genomic data, particularly those from closely related coronaviruses (CoVs). The crucial aspect of SARS-CoV-2 origin tracing lies in identifying the key genomic features.
2. The first key genomic feature, designated as RC0, was reported in previous studies [1], where wild-type RC0 was also identified to encode the junction FCS "RRAR" in SARS-CoV-2.
3. In table 2, Chen S et al. [29] discovered RC1 as the second crucial clue for the origin tracing of SARS-CoV-2.

[1] Li X, Duan GY, Zhang W, Shi JS, Chen JY, Chen SM, et al. A furin cleavage site was discovered in the S protein of the 2019 novel coronavirus. *Chinese Journal of Bioinformatics (In Chinese)*. 2020;18(2): 103-108.

[29] Chen S, Ruan C, Guo Y, Chang J, Yan H, Chen L, Duan Y, Duan G, Bei J, Li X, Gao S. "Emergence of crucial evidence catalyzing the origin tracing of SARS-CoV-2."

PLoS One 2024;19(8):e0309557. doi:10.1371/journal.pone.0309557.

## **Declarations**

**Potential competing interests:** No potential competing interests to declare.