

# MONITORA CORONA

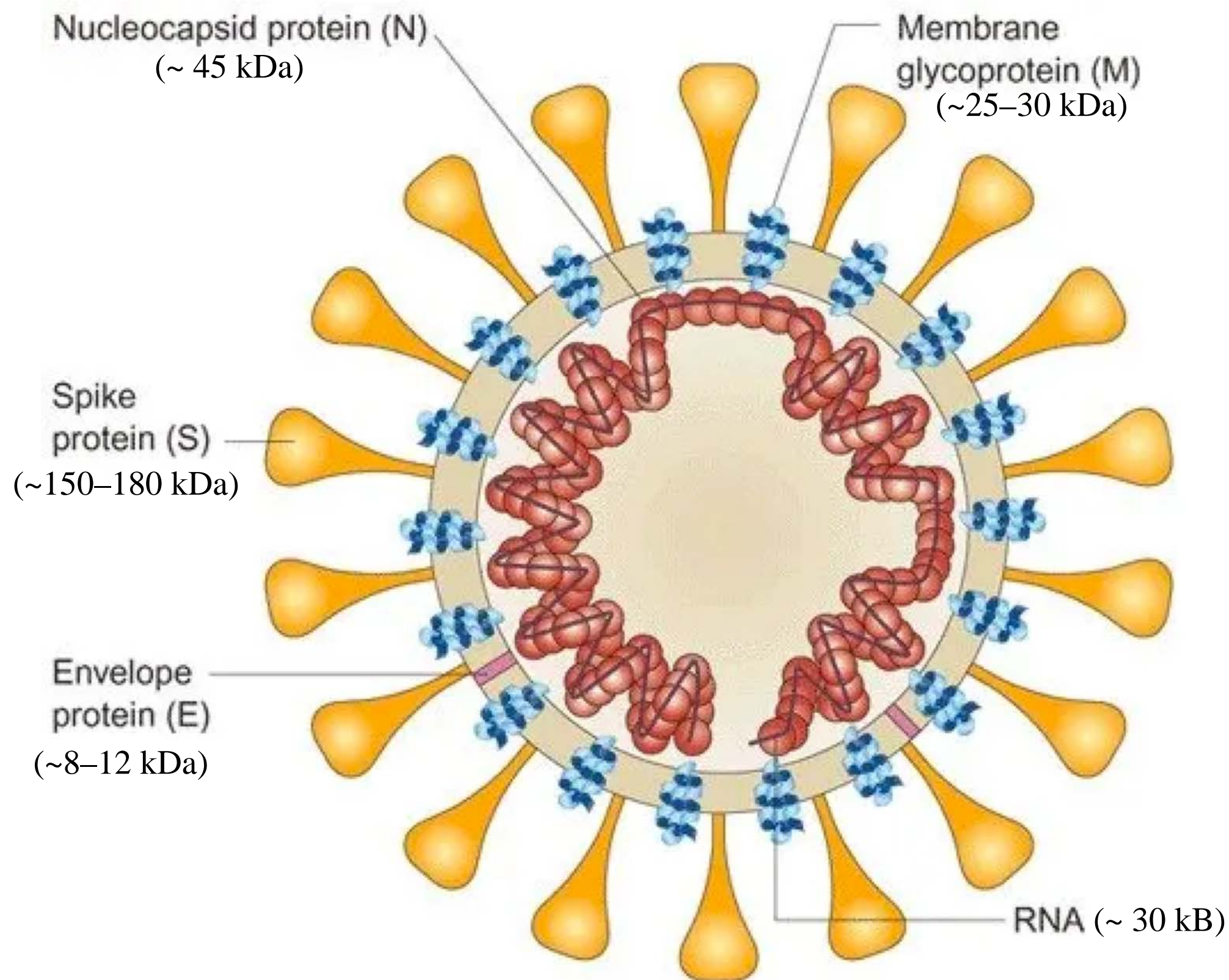


Estudo de Monitoramento Espaço-Temporal  
da Concentração de SARS-COV-2 nos Esgotos  
Sanitários da RMRJ

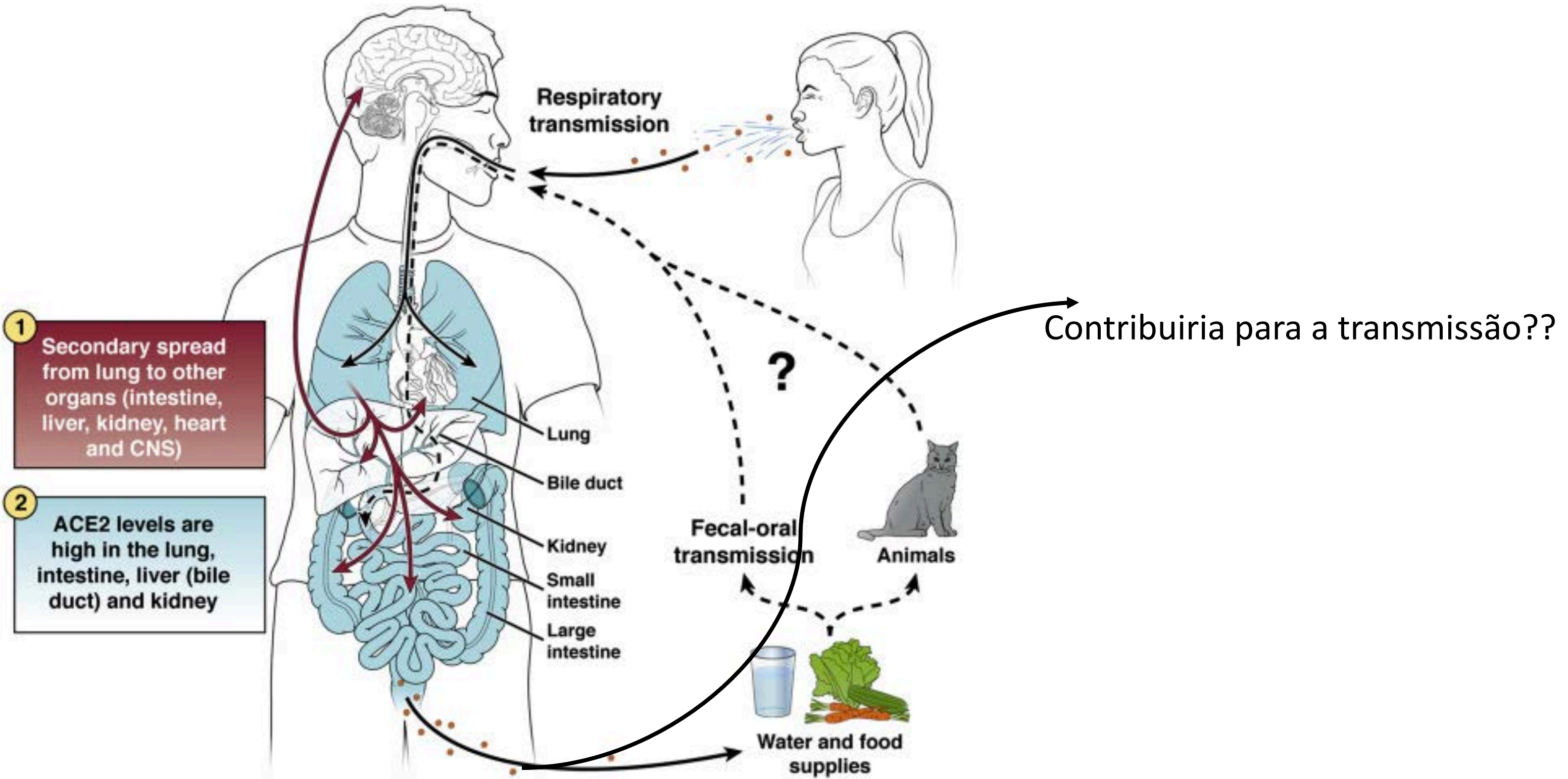
Luciana Jesus da Costa

Profa. Associada - Instituto Microbiologia - UFRJ

# SARS-CoV-2 (*Coronaviridae*)

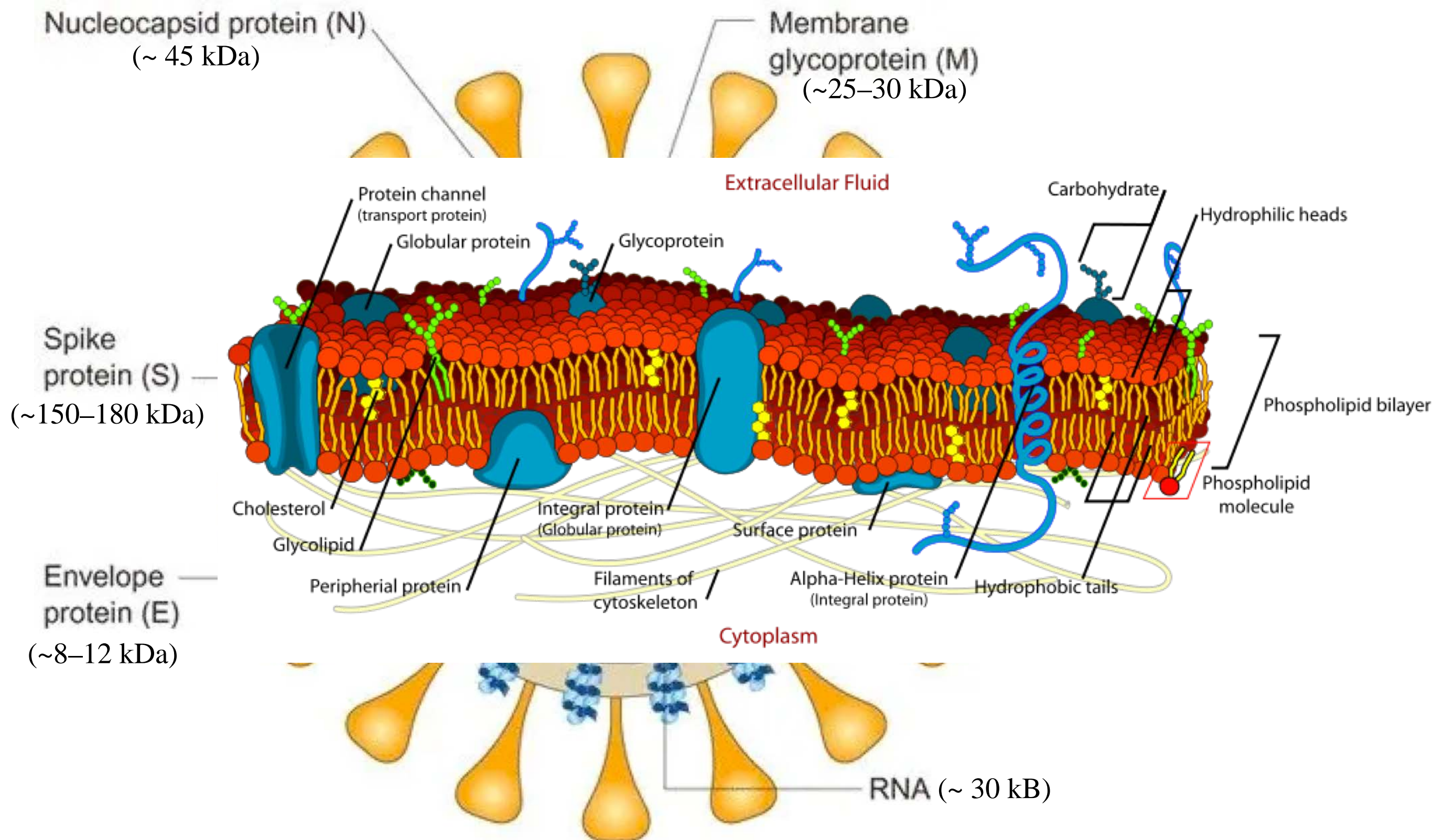


# Transmissão SARS-CoV-2

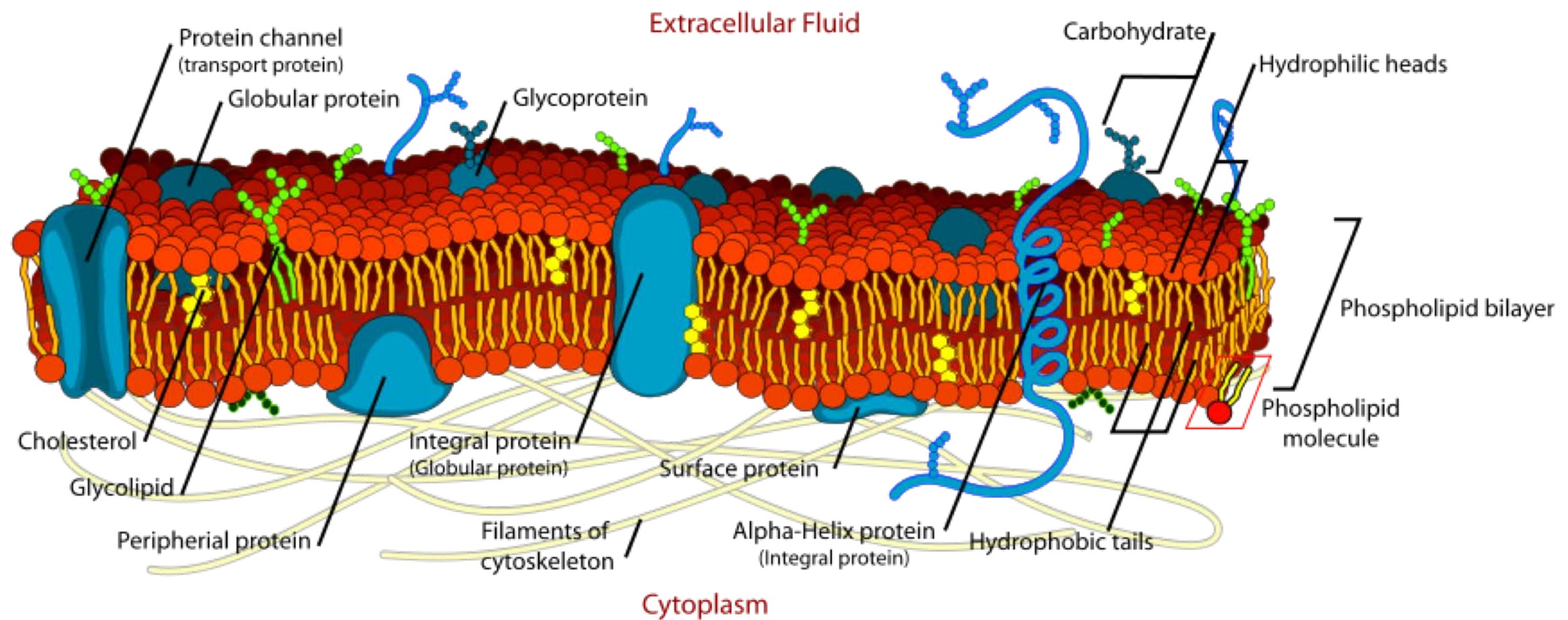


Siyuan Ding and T. Jake Liang: *Gastroenterology* 2020;159:53–61

# SARS-CoV-2 (*Coronaviridae*)

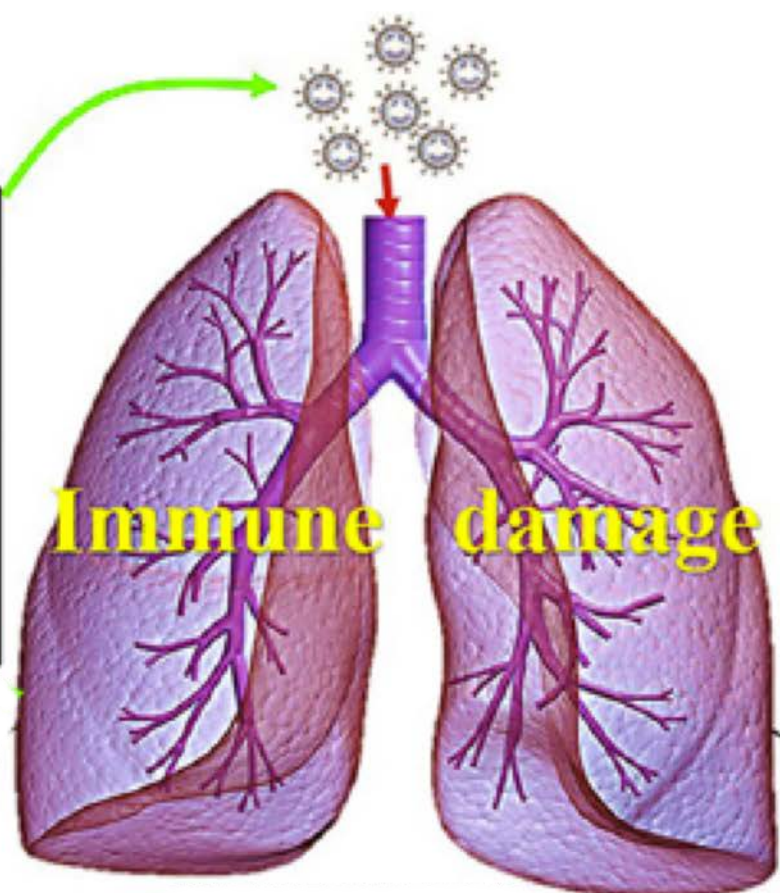
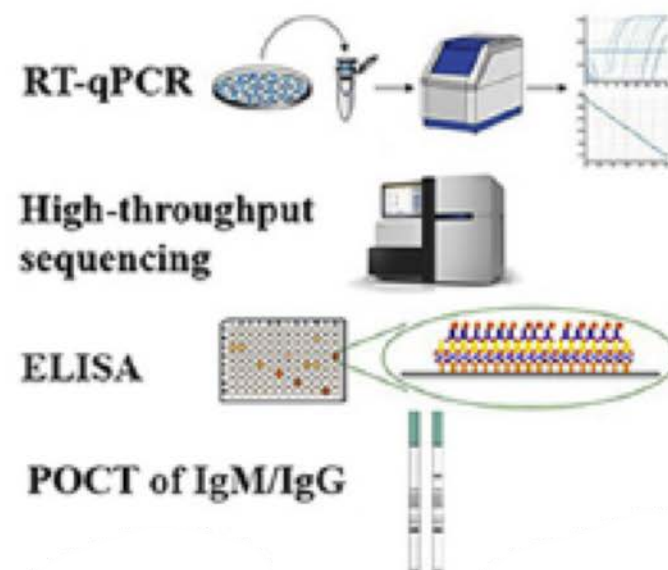


# SARS-CoV-2 (*Coronaviridae*)



# Diagnóstico SARS-CoV-2

## Diagnosis of COVID-19



Deteção Vírus:

Teste detecção ácido nucleico – **RT-qPCR**

Teste detecção de antígenos virais

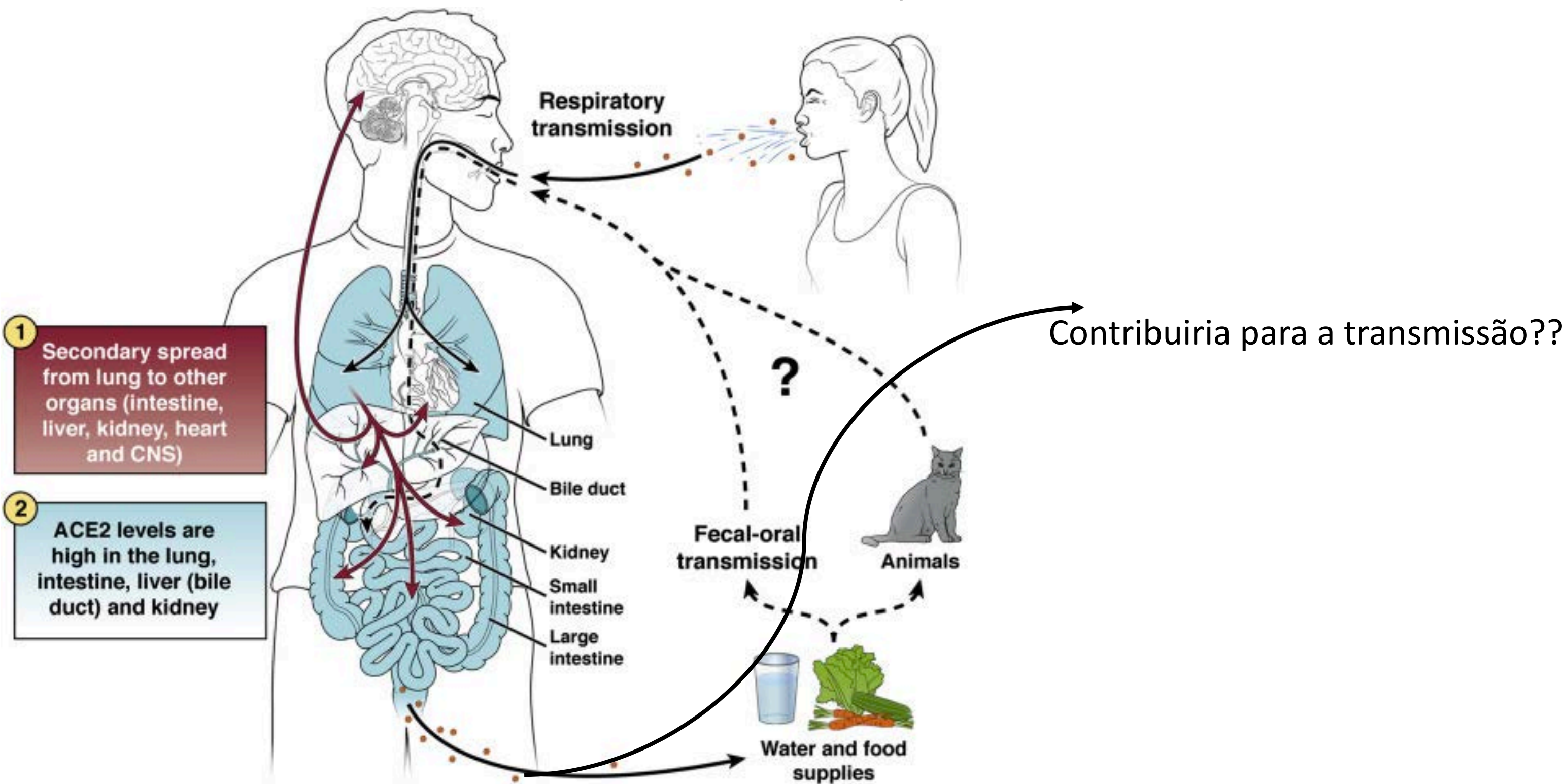
Deteção resposta:

Testes detecção anticorpos específicos anti-

SARS-CoV-2:

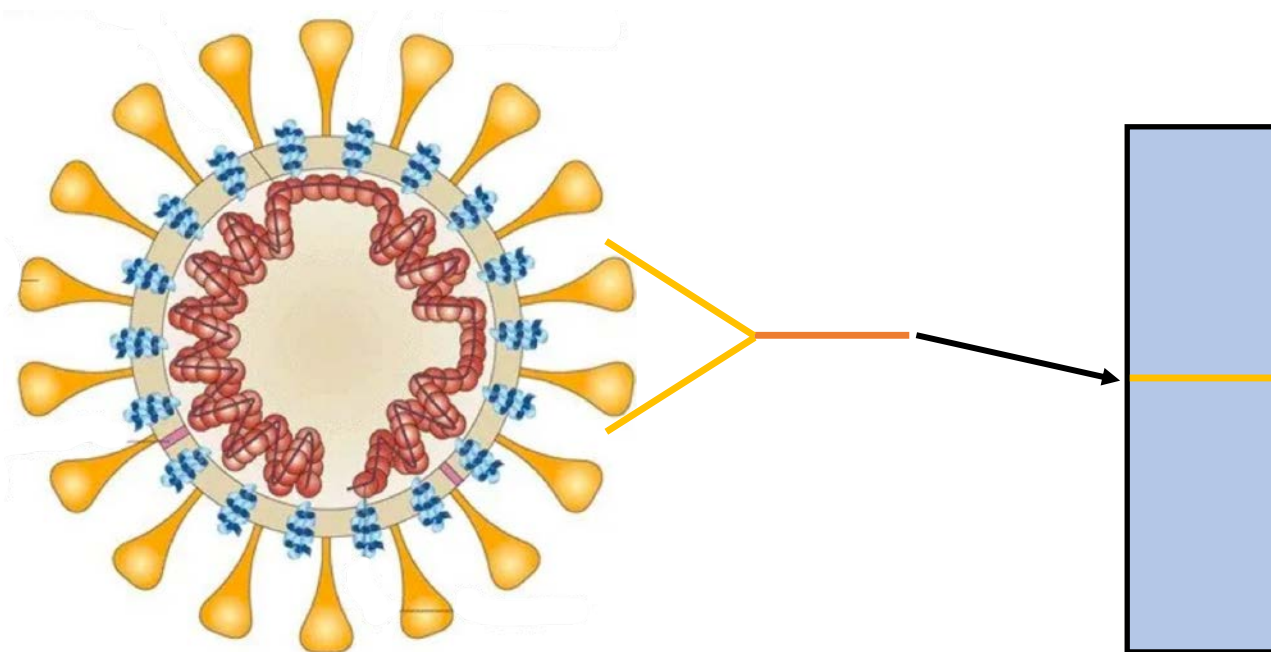
ELISA; Teste cromatográfico rápido

# Detecção SARS-CoV-2 Efluentes - Valor??

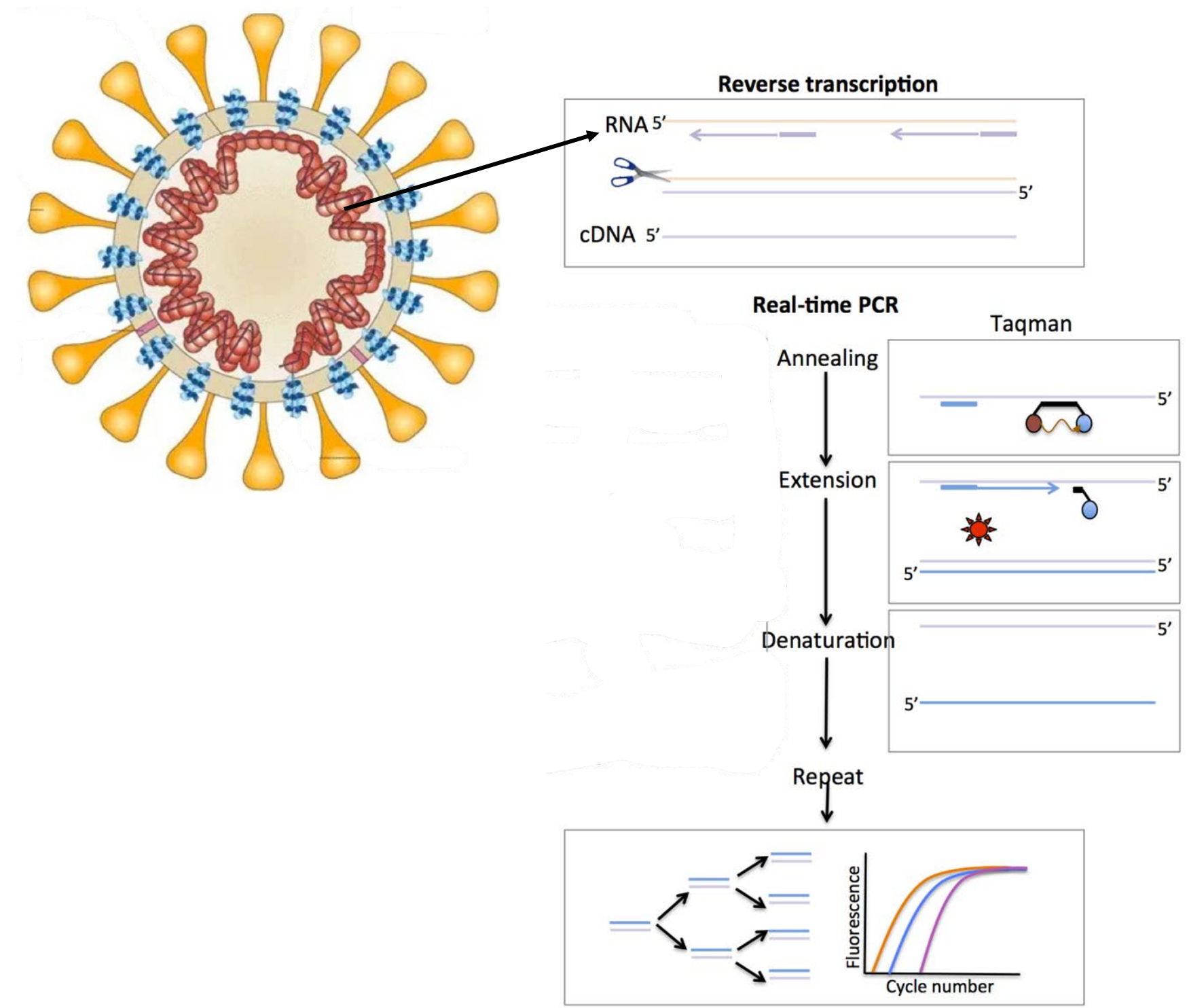


Siyuan Ding and T. Jake Liang: *Gastroenterology* 2020;159:53-61

SARS-CoV-2 (detecção antígeno)



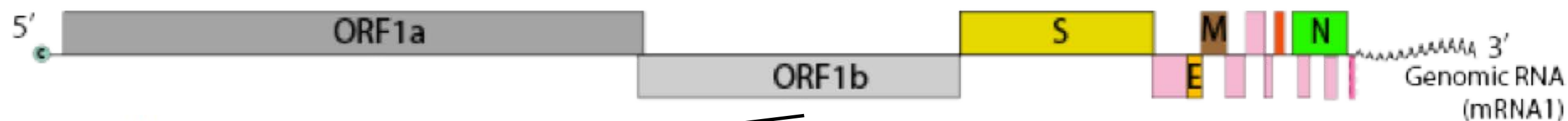
SARS-CoV-2 (detecção ácido nucleico)



Siyuan Ding and T. Jake Liang: *Gastroenterology* 2020;159:53–61



## SARS-CoV-2



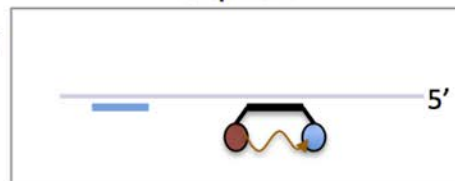
### Reverse transcription



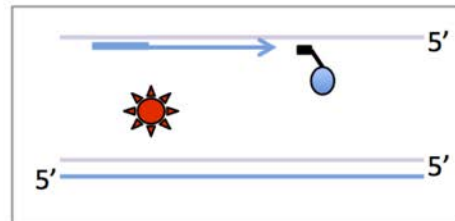
### Real-time PCR

#### Taqman

Annealing



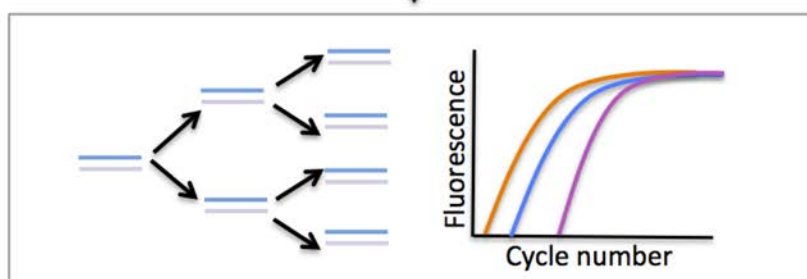
Extension



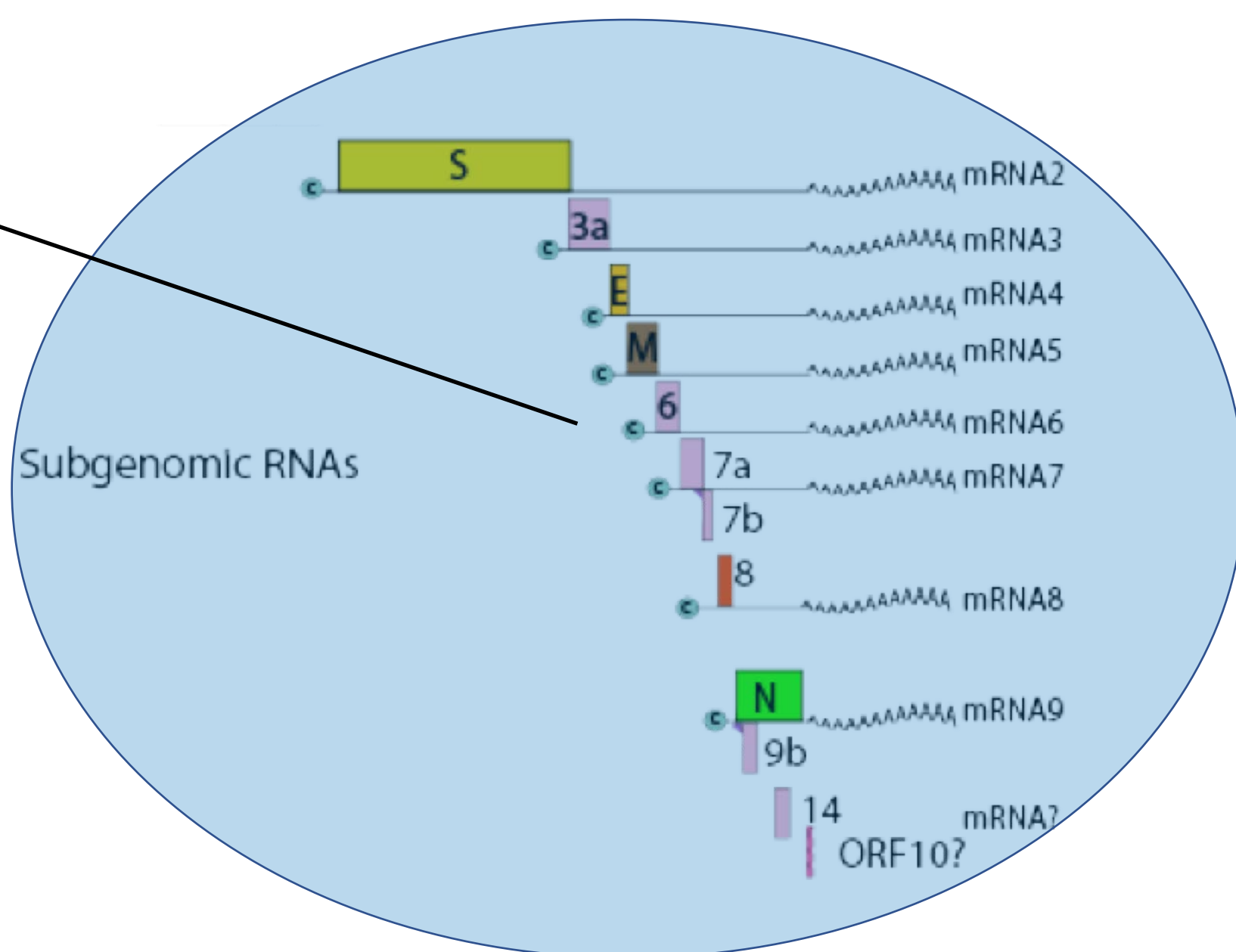
Denaturation



Repeat



### Subgenomic RNAs



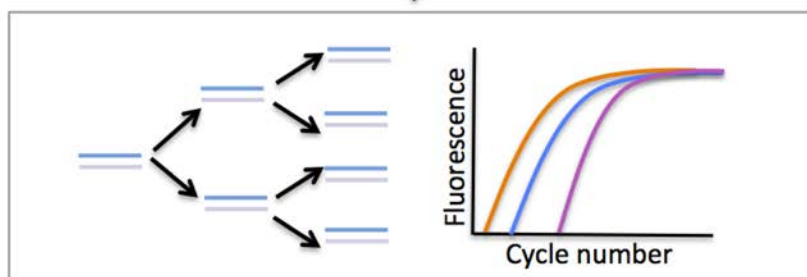
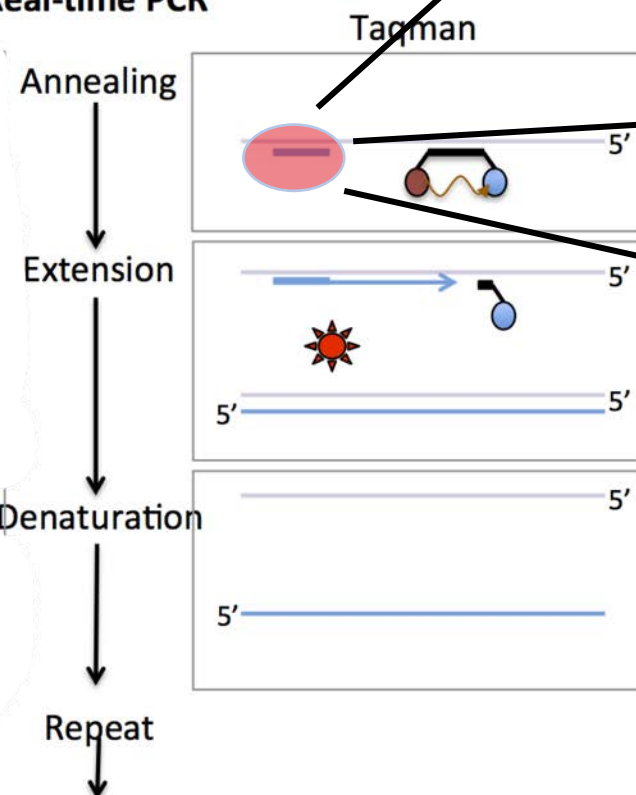
## SARS-CoV-2



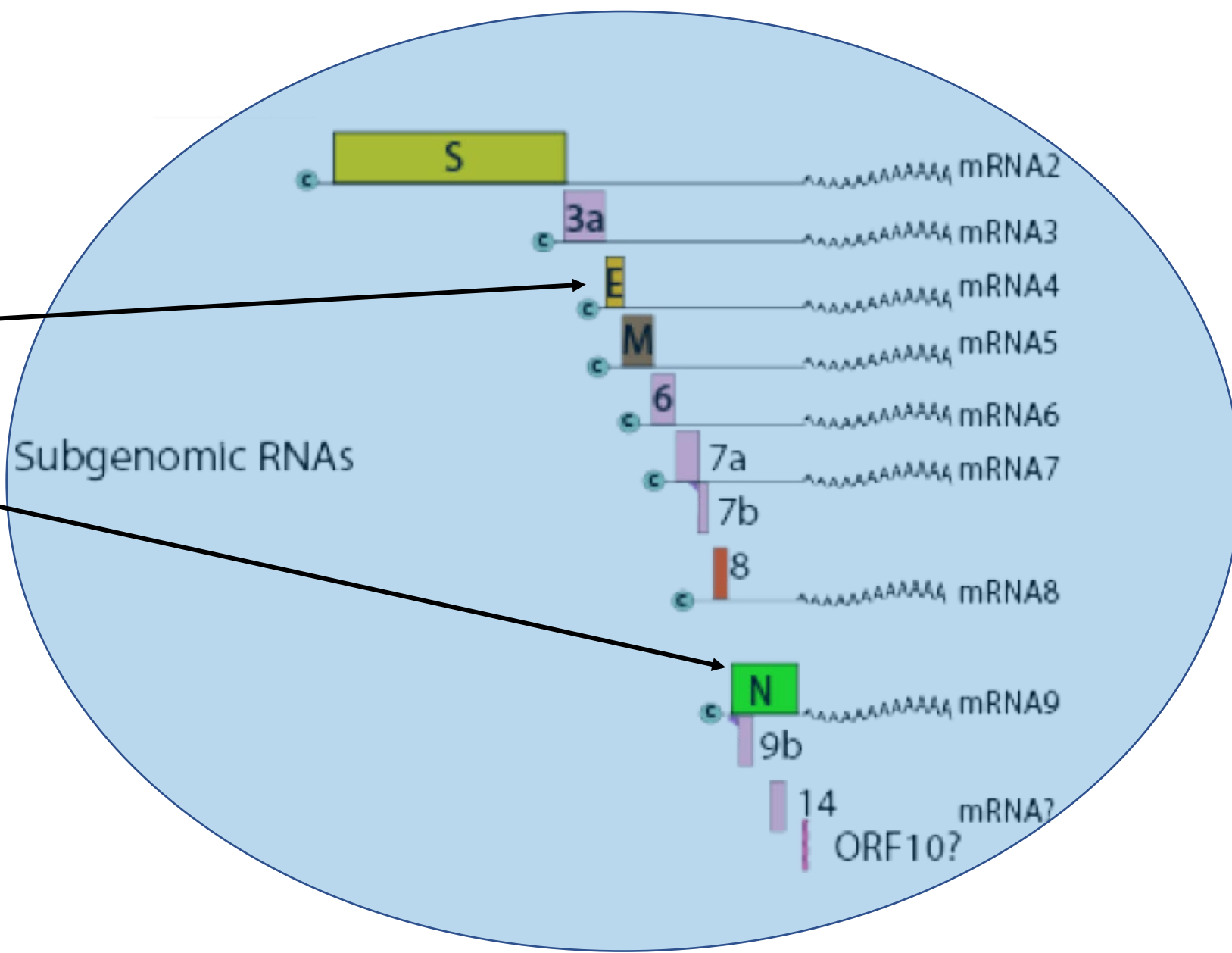
### Reverse transcription



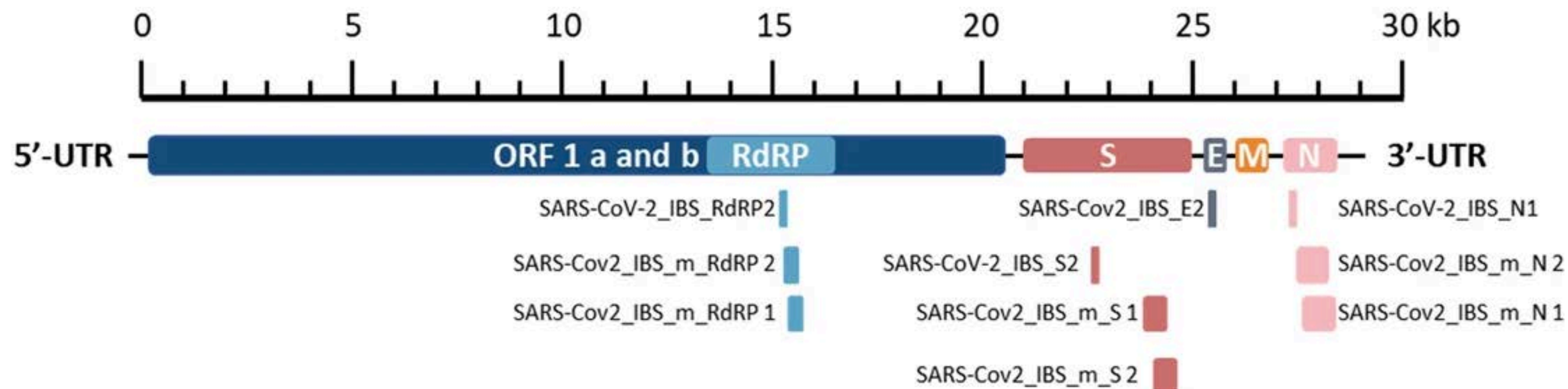
### Real-time PCR



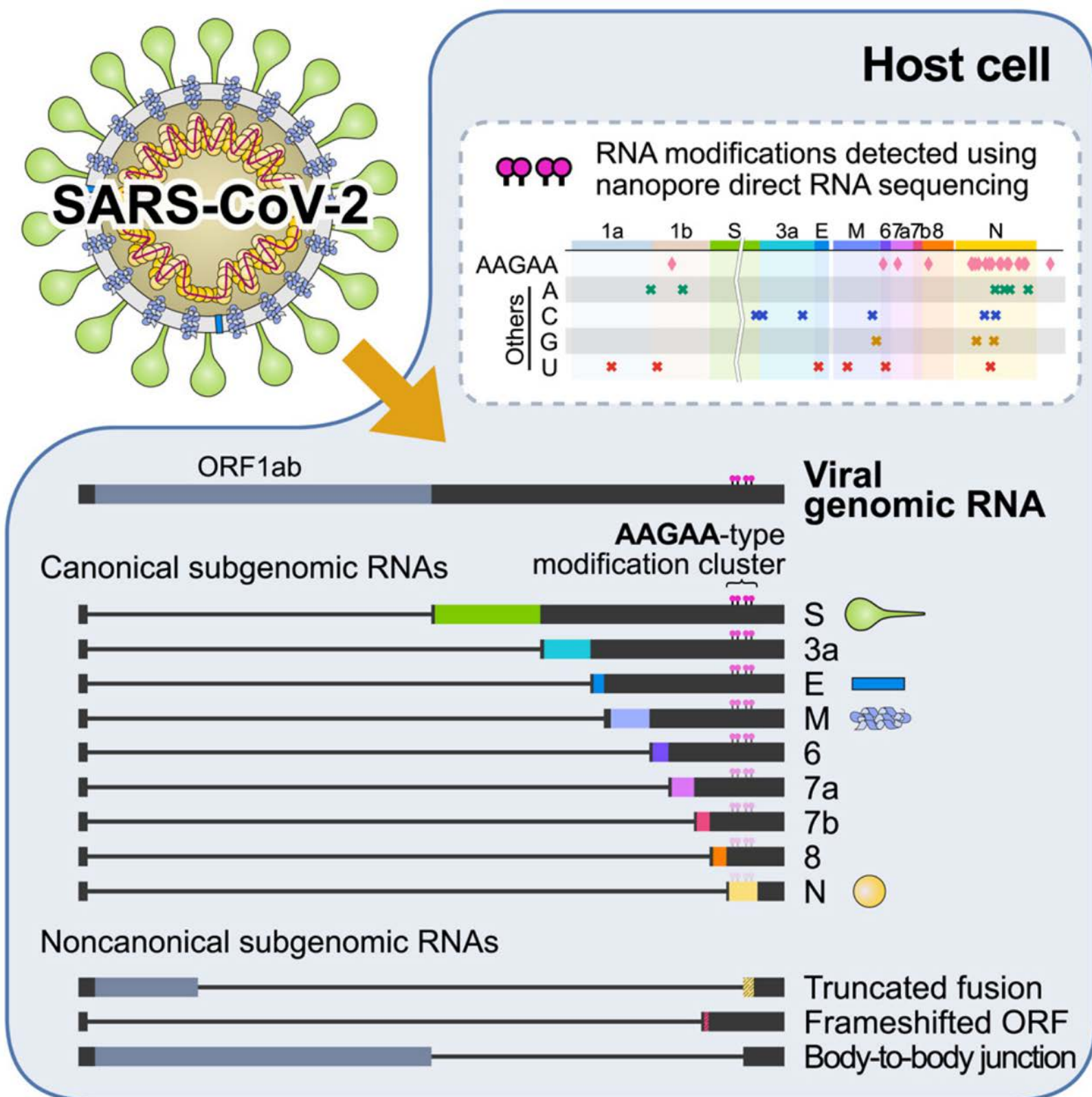
### Subgenomic RNAs



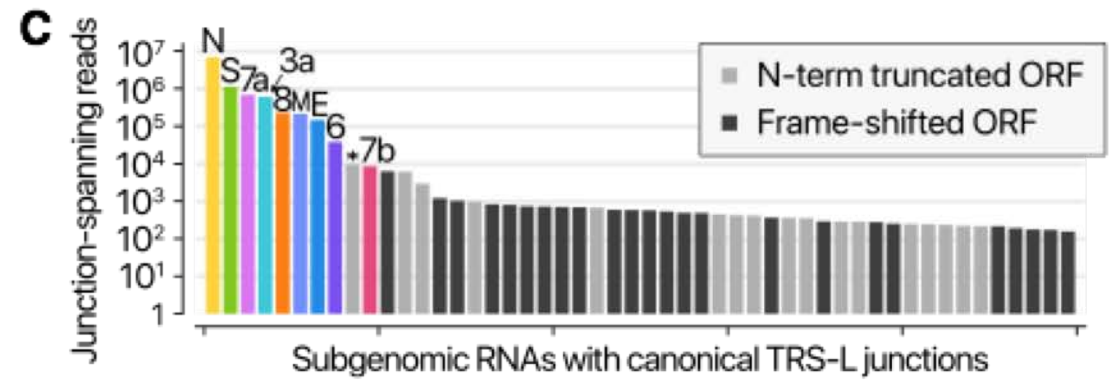
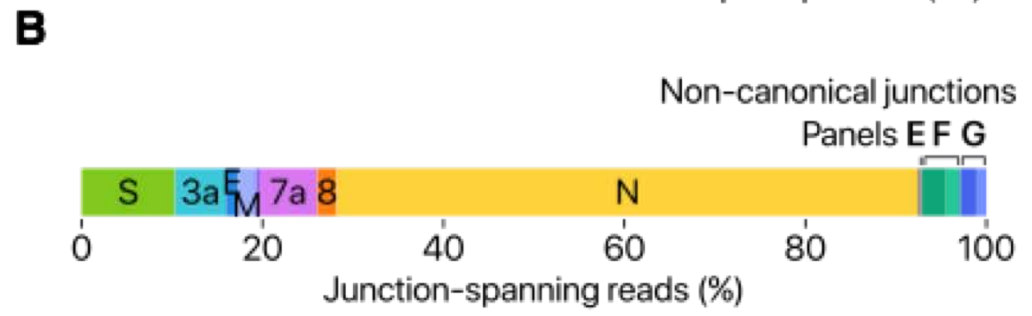
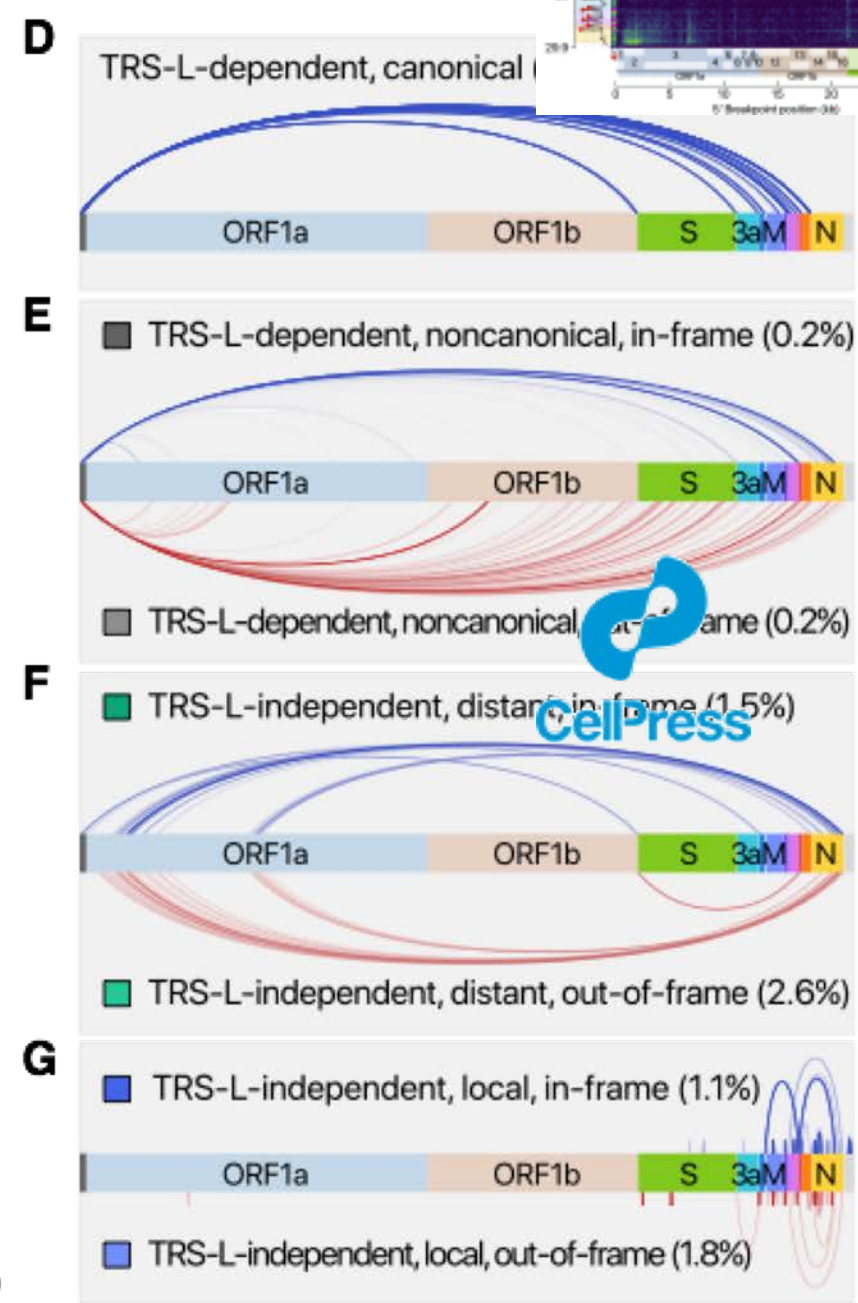
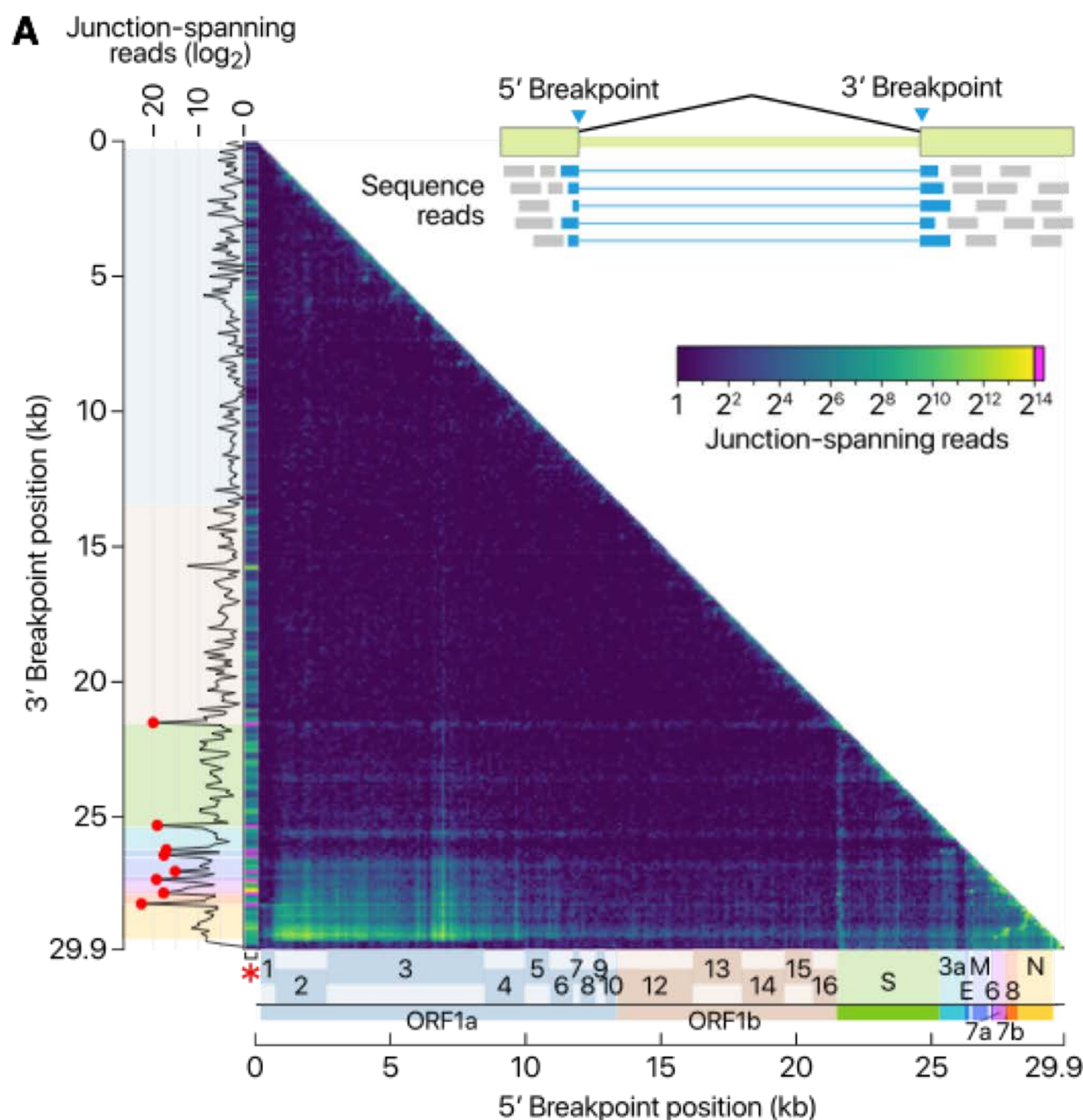
# Iniciadores e sondas SARS-CoV-2



# Perfil da ocorrência dos mRNAs de SARS-CoV-2



Kim et al.: Cell 2020;181:914-921



Kim et al.: Cell 2020;181:914-921

# Desafios

- Protocolo de concentração amostras;
- Otimização da detecção dos alvos virais;
- Otimização dos parâmetros do RT-qPCR
- Cadeia de obtenção dos insumos;
- Custos;
- Biossegurança

**OBRIGADO**  
pela atenção!

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