

↑ Up in COVID-19
↓ Down in COVID-19

↑ Endothelial dysfunction,
Secreted Factors

SARS-CoV-2 virus

Adaptive Immune Response

Endothelial Cells

↑ Increases with ACE2
down-regulation

↑ Injury, Inflammatory Cytokines,
Arrhythmia, Hypertrophy

ACE2 ↓ in the myocardium

ANG II in the myocardium

Cardiac Myocyte

Myofibroblasts produce AGT and other RAS components

TGF-β secreted by myofibroblasts drives hypertrophy

Myocyte and Immune cell crosstalk via secreted factors

Opposes effects of ANG II

ANG (1-7) and ANG (1-5)

↓ Decreases with ACE2 down-regulation

Fibroblasts

Secreted factors from myocytes and immune cells drive formation of myofibroblasts

Inflammatory Cells

↑ Inflammation, ROS, Chemotaxis, Cytokine secretion

