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Putative contributions of circadian clock and sleep in the context of SARS-CoV-2 infection

Miguel Meira e Cruz^{1,4}, Masaaki Miyazawa^{2,4} and David Gozal ³

Affiliations: ¹Sleep Unit, Cardiovascular Center of University of Lisbon, Lisbon School of Medicine, Lisbon, Portugal. ²Dept of Immunology, Faculty of Medicine and Anti-Aging Center, Kindai University, Osaka, Japan. ³Dept of Child Health and the Child Health Research Institute, The University of Missouri School of Medicine, Columbia, MO, USA. ⁴Equal contributors.

Correspondence: David Gozal, Dept of Child Health, University of Missouri School of Medicine, 400 N. Keene Street, Columbia, MO 65201, USA. E-mail: gozald@health.missouri.edu



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Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the aetiological agent of the pandemic coronavirus disease 2019 (COVID-19), is a newly found member of the *Coronaviridae* family, and is closely related to, albeit with important differences from, SARS-CoV [1]. It enters human cells through the binding of surface spike (S) glycoprotein with angiotensin-converting enzyme 2 (ACE2) [2–4]. The distal S1 subunit of the S protein is responsible for receptor binding, while the transmembrane S2 subunit mediates fusion between the viral envelope and the target cell membrane following proteolytic cleavage by specific cellular enzymes such as transmembrane serine protease 2 for S protein priming [5]. As it is likely that expression levels of ACE2 affect the efficiency of virus attachment and entry, as well as disease severity [6], and the interactions between viral S protein and ACE2 may directly cause lung injury [7], ACE2 may be a potential target of therapeutic and preventative interventions [8].