

COVID-19

CRISPRing for host genes regulating SARS-CoV-2

Wei et al. screened the African green monkey genome using CRISPR/Cas9 for genes involved in SARS-CoV-2 infection and cell death. Surprisingly, SARS-CoV-2, which replicates in the cytosol, depends on a large number of host genes that function in the nucleus. Amongst the crucial genes, the SWI/SNF chromatin remodelling complex, several TGF β signalling components and the alarmin HMGB1 were proviral, whereas the histone H3.3 complex was antiviral, which highlights the importance of epigenetic regulation in the antiviral response. Treatment of cells with small molecule inhibitors of the SWI/SNF complex and of the TGF β signalling pathway protected against SARS-CoV-2 infection. Further studies will need to investigate how these host genes regulate SARS-CoV-2 infection and whether these small molecule antagonists could be used therapeutically.

ORIGINAL ARTICLE Wei, J. et al. Genome-wide CRISPR screen reveals host genes that regulate SARS-CoV-2 infection. Preprint at *bioRxiv*
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The authors declare no competing interests.