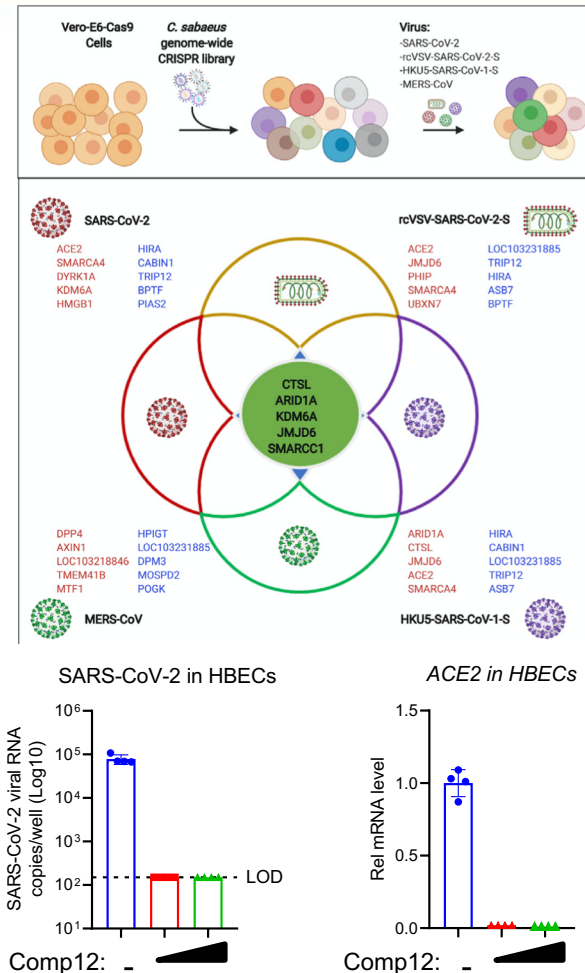


Host-directed therapeutics against highly pathogenic coronaviruses including SARS-CoV-2 (OCR 7946)

- Genome-wide CRISPR screens identified host genes essential for infection of SARS-CoV-2, SARS-CoV-1, and MERS-CoV.
- Targets for host-directed therapy against current and emerging coronaviruses
- Histone modifying enzymes KDM6A and KMT2D regulate expression of diverse coronavirus receptors and are essential for infection across virus and host species
- SWI/SNF chromatin remodeling complex essential for expression of ACE2
- Small molecule inhibitors targeting the SWI/SNF complex (SMARCA2/4) and KDM6A are highly effective at preventing infection.
- **Intellectual Property:** Patent application pending
- **Reference:** Wei J, ... Wilen CB. Genome-wide CRISPR screens of multiple pathogenic coronaviruses reveal host factors critical for SARS-CoV-2 infection. *Cell* 2021. PMID: 33147444



Top figure shows genome-wide CRISPR screen that identified host genes essential for coronavirus infection. Bottom figure shows the SWI/SNF inhibitor Comp12 blocks SARS-CoV-2 infection in human bronchial epithelial cells (HBECs) by reducing ACE2 receptor expression