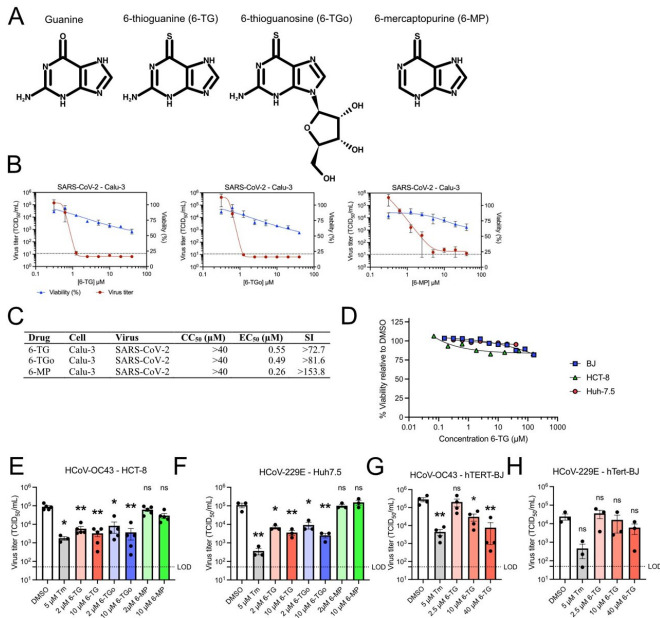# Researchers discover existing drug can disrupt coronavirus replication

23 November 2022

SEM, statistical significance was determined by one-way ANOVA). LOD = Limit of Detection for virus titer. (*, p

Thiopurines 6-thioguanine and 6-thioguanosine inhibit coronavirus replication. (A) Structures of thiopurines used this study in comparison to guanine. (B) Calu-3 cells were infected with SARS-CoV-2 at an MOI of 0.1 then treated with 6-thioguanine (6-TG), 6-thioguanosine (6-TGo), or 6-mercaptopurine (6-MP). Supernatants were harvested after 48 h and stored at -80°C until titering on Vero'76 cells. Mock-infected cells were similarly treated with 6-TG, 6-TGo, 6-MP, or DMSO vehicle control for 48 h before testing cell viability with CellTiter 96 AQueous One (n = 3 ± SEM). Dotted line indicates Limit of Detection. (C) Summary table of 50% Cytoxic Concentration (CC_{50}), 50% Effective Concentration (EC_{50}), and Selectivity Index (SI) calculated for (A-C). (D) AlamarBlue cell viability assay of hTert-BJ, HCT-8, and Huh-7.5 cells treated with 6-TG (n = 3±SEM). (E-H) TCID50 assays for (E) HCoV-OC43 infected HCT-8 cells and (F) HCoV-229E infected Huh-7.5 cells. Cells were infected with an MOI of 0.1 then treated with tunicamycin (Tm), 6-TG, 6-TGo, 6-MP, or DMSO (n?3 ± SEM, statistical significance was determined by one-way ANOVA). hTERT-BJ cells were infected with HCoV-OC43 (G) or HCoV-229E (H) at an MOI of 0.1 and treated with 6-TG, Tm, or DMSO. Supernatants were harvested after 23 h and stored at -80°C before titering on BHK-21 or Huh7.5 (n = 3–4 ±

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