

How basic studies of a coronavirus protein led to two antivirals for COVID-19

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The emergence of three zoonotic CoVs since 2003 suggests that this is not a rare occurrence and will continue to be a threat. The Denison Lab research teams have studied CoV replication for over 35 years and specifically antivirals targeting CoV replication since 2014. CoVs encode replicase polyproteins that are translated from the input genome +RNA, processed into mature proteins that assemble into a multiprotein replicase holoenzyme, and mediate viral RNA synthesis. The seminar will discuss how our experimental confirmation of the novel and unique CoV RNA proofreading exonuclease was the basis for studies leading to the preclinical development of two antivirals approved (or EUA) for treatment of COVID. The seminar also will describe emerging regulatory challenges to the study of viral genetics, antivirals and other countermeasures.