SARS-CoV-2 Drugs Research

## Learning Objectives: To explore public data resources in biology and the scientific literature to learn about the current status of SARS-CoV-2 drugs

## Introduction

Information included in the exercises in this curriculum represent our knowledge about the SARS-CoV-2 virus and drug repurposing/ design through Summer 2020. This research project engages students in learning about the current status of SARS-CoV-2 drugs using public data resources in biology and the scientific literature to learn about the topic of interest.

## Exercise

Organize students to do this research in groups or assign to individual students as appropriate. Students should research any one of the current SARS-CoV-2 drugs in clinical trials and

answer the following questions:

1. What is the target that the drug binds to?
2. Explain the molecular mechanism of drug action? Include listing and images of relevant molecular structures (of the drug and target(s)) if available.
3. How and when is it administered (in the course of the disease)?
4. Are there any side-effects or complications that result from taking the drug?
5. If it is in clinical trial - what phase is it in?

Information gathered by each group or individual should be presented to the entire class as a poster or a presentation.

## Resources

1. Overview: <https://www.sciencemag.org/news/2020/03/who-launches-global-megatrial-four-most-promising-coronavirus-treatments>

<https://www.sciencedirect.com/science/article/pii/S0168170220304639>

1. Literature resources: <https://www.ncbi.nlm.nih.gov/research/coronavirus/docsum?filters=topics.Treatment>
2. Drug related information: <https://www.drugbank.ca/>
3. Molecular structures: https://www.rcsb.org/
4. Clinical trials: <https://clinicaltrials.gov/ct2/results?cond=Covid19&term=treatment&cntry=&state=&city=&dist=&Search=Search>