

DEVELOPING BIOINFORMATIC RESOURCES FOR CORONAVIRUSES

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ABSTRACT

Virginia Bioinformatics Institute (VBI) and its partners have been awarded a 5-year contract from NIH-NIAID to establish a national Bioinformatics Resource Center (BRC) to facilitate research on microbial pathogens. As part of this initiative, VBI is developing the PathoSystems Resource Integration Center (PATRIC), a multi-organism relational database to support infectious disease research, especially as it affects biodefense and research on emerging infectious diseases (<http://patric.vbi.vt.edu>). We expect PATRIC to be used as a computational resource to gain insight into mechanisms of microbial pathogenesis and to hasten the development of improved vaccines, diagnostics and therapeutics. The database will contain high-quality curated data: sequence annotations from published whole and partial genomes; relevant experimental data; metabolic pathway data; taxonomic data; literature citations; and a suite of visualization and analysis tools. Research experts and members of the scientific community will be closely involved at each step of the curation/annotation process. VBI is curating information on a set of eight different pathogen classes that include both bacteria and viruses. Included in this set is the genus *Coronavirus* (family *Coronaviridae*). At present we have archived the annotations of the 153 coronavirus species. These include both whole-genome (130) and partial-genome (23) annotations. This sequence archive represents the initial step in our efforts to curate data on *Coronavirus* species. We welcome active participation by the *Coronavirus* research community in developing PATRIC as a useful computational resource for infectious disease research.

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