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(12) United States Patent
Bickerton et al.

(54) CORONAVIRUS

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(73) Assignee: THE PIRBRIGHT INSTITUTE, Pirbright (GB)

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C12N 7/00 (2006.01)
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CPC .........., A61K 39/215 (2013.01); C12N 7/00 (2013.01); C12N 8/127 (2013.01); C12Y 207/07048 (2013.01); A61K 2039/3254 (2013.01); A61K 2039/54 (2013.01); C12N 277002021 (2013.01); C12N 2770/20022 (2013.01); C12N 2770/20034 (2013.01); C12N 2770/20051 (2013.01); C12N 2770/20062 (2013.01)

(58) Field of Classification Search
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See application file for complete search history.

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(Continued)

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(57) ABSTRACT

The present invention provides a live, attenuated coronavirus comprising a variant replicase gene encoding polyproteins comprising a mutation in one or more of non-structural protein(s) (ns)-10, ns-14, ns-15 or ns-16. The coronavirus may be used as a vaccine for treating and/or preventing a disease, such as infectious bronchitis, in a subject.

25 Claims, 15 Drawing Sheets
Specification includes a Sequence Listing.
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