Appendix 2: Search strategies

L·OVE platform strategies

Search strategies used in the L·OVE platform for the following question:
Lopinavir for Coronavirus infection
The components below are combined by the system with the boolean operator AND

Population component: Coronavirus
This is the population component of the search strategy used by L·OVE platform to automatically retrieve potentially eligible articles from Epistemonikos Database (see special COVID-19 methods)
Date: May 17, 2020 (this strategy is continuously improved any time a relevant article is missed)

coronavir* OR coronavirus* OR "corona virus" OR "virus corona" OR "corono virus" OR "virus corono" OR hcov* OR "covid-19" OR covid19* OR "covid 19" OR "2019-nCoV" OR cv19* OR "cv-19" OR "cv 19" OR "n-cov" OR ncov* OR "sars-cov-2" OR "sars-cov2" OR "SARS-Coronavirus-2" OR "SARS-Coronavirus2" OR (wuhan* AND (virus OR viruses OR viral)) OR (covid* AND (virus OR viruses OR viral)) OR "sars-cov" OR "sars cov" OR "sars-coronavirus" OR "severe acute respiratory syndrome" OR "mers-cov" OR "mers cov" OR "middle east respiratory syndrome" OR "middle-east respiratory syndrome" OR "covid-19-related" OR "SARS-CoV-2-related" OR "SARS-CoV2-related" OR "2019-nCoV-related" OR "cv-19-related" OR "n-cov-related"

Intervention component: Lopinavir/ritonavir
This is the intervention component of the strategy used by L·OVE platform to automatically retrieve potentially eligible articles from Epistemonikos Database
The terms below are combined by the system with the boolean operator OR
Date: May 17, 2020 (this strategy is continuously improved any time a relevant article is missed)
Relevant terms in L·OVE taxonomy

<table>
<thead>
<tr>
<th>Relevant terms in L·OVE taxonomy</th>
<th>Search strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lopinavir</td>
<td>(lopinav* OR LPV* OR &quot;ABT-378&quot; OR &quot;ABT 378&quot; OR ABT378* OR kaletra*)</td>
</tr>
</tbody>
</table>

Single-block search strategy in L·OVE platform for the question: mesenchymal stromal cells for COVID-19 (adapted for simplicity)

Date: May 17, 2020

((coronavir* OR coronovirus* OR "corona virus" OR "virus corona" OR "corono virus" OR "virus corono" OR hcov* OR "coronavirus" OR "virus corona" OR "virus corono" OR "covid-19" OR covid19* OR "covid 19" OR "2019-nCoV" OR cv19* OR "cv-19" OR "cv 19" OR "n-cov" OR ncv* OR "sars-cov-2" OR "sars-cov2" OR "SARS-Coronavirus-2" OR "SARS-Coronavirus2" OR (wuhan* AND (virus OR viruses OR viral)) OR (covid* AND (virus OR viruses OR viral)) OR "sars-cov" OR "sars cov" OR "sars-coronavirus" OR "severe acute respiratory syndrome" OR "mers-cov" OR "mers cov" OR "middle east respiratory syndrome" OR "middle-east respiratory syndrome" OR "covid-19-related" OR "SARS-CoV-2-related" OR "SARS-CoV2-related" OR "2019-nCoV-related" OR "cv-19-related" OR "n-cov-related")) AND (lopinav* OR LPV* OR "ABT-378" OR "ABT 378" OR ABT378* OR kaletra*)

Additional searches in electronic databases

Search strategy for Pubmed/MEDLINE

Search date: May 17, 2020

#1      coronavir*
#2      coronovirus*
#3      "corona virus"
#4      "virus corona"
#5      "corono virus"
#6      "virus corono"
#7      hcov*
#8      "covid-19"
#9      covid19*
#10     "covid 19"
Lopinavir/ritonavir for COVID-19: A living systematic review
doi: 10.5867/medwave.2020.06.7966

#11 "2019-nCoV"
#12 cv19*
#13 "cv-19"
#14 "cv 19"
#15 "n-cov"
#16 ncov*
#17 "sars-cov-2"
#18 wuhan* AND (virus OR viruses OR viral)
#19 covid* AND (virus OR viruses OR viral)
#20 "sars-cov"
#21 "sars cov"
#22 "sars-coronavirus"
#23 "severe acute respiratory syndrome"
#24 "mers-cov"
#25 "mers cov"
#26 "middle east respiratory syndrome"
#27 "middle-east respiratory syndrome"
#28 #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27
#29 lopinav*
#30 LPV*
#31 "ABT-378"
#32 "ABT 378"
#33 ABT378*
#34 kaletra*
#35 #29 OR #30 OR #31 OR #32 OR #33 OR #34
#36 #28 AND #35
Search strategy for EMBASE (Elsevier)

Search date: May 2, 2020

#1. coronavirus*
#2. coronavir*
#3. 'corona virus'
#4. 'virus corona'
#5. 'corono virus'
#6. 'virus corono'
#7. hcov*
#8. 'covid-19'
#9. covid19*
#10. 'covid 19'
#11. '2019-ncov'
#12. cv19*
#13. 'cv-19'
#14. 'cv 19'
#15. 'n-cov'
#16. ncov*
#17. 'sars-cov-2'
#18. wuhan* AND (virus OR viruses OR viral)
#19. covid* AND (virus OR viruses OR viral)
#20. 'sars-cov'
#21. 'sars cov'
#22. 'sars-coronavirus'
#23. 'severe acute respiratory syndrome'
#24. 'mers-cov'
#25. 'mers cov'
#26. 'middle east respiratory syndrome'
#27. 'middle-east respiratory syndrome'
#28. #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27
Lopinavir/ritonavir for COVID-19: A living systematic review
doi: 10.5867/medwave.2020.06.7966

#29. lopinav*
#30. LPV*
#31. "ABT-378"
#32. "ABT 378"
#33. ABT378*
#34. kaletra*
#35. #29 OR #30 OR #31 OR #32 OR #33 OR #34
#36. #28 AND #35

Search strategy for CENTRAL (The Cochrane Library Issue 1, 2019)

Search date: May 17, 2020
#1 coronavir*:ti,ab,kw
#2 coronovirus*:ti,ab,kw
#3 "corona virus":ti,ab,kw
#4 "virus corona":ti,ab,kw
#5 "corono virus":ti,ab,kw
#6 "virus corono":ti,ab,kw
#7 hcov*:ti,ab,kw
#8 "covid-19":ti,ab,kw
#9 covid19*:ti,ab,kw
#10 "covid 19":ti,ab,kw
#11 "2019-nCoV":ti,ab,kw
#12 cv19*:ti,ab,kw
#13 "cv-19":ti,ab,kw
#14 "cv 19":ti,ab,kw
#15 "n-cov":ti,ab,kw
#16 ncov*:ti,ab,kw
#17 "sars-cov-2"
#18 (wuhan* AND (virus OR viruses OR viral)):ti,ab,kw
#19 covid* AND (virus OR viruses OR viral):ti,ab,kw
#20 "sars-cov":ti,ab,kw
Lopinavir/ritonavir for COVID-19: A living systematic review
doi: 10.5867/medwave.2020.06.7966

#21 "sars cov" :ti,ab,kw
#22 "sars-coronavirus":ti,ab,kw
#23 "severe acute respiratory syndrome":ti,ab,kw
#24 "mers-cov":ti,ab,kw
#25 "mers cov":ti,ab,kw
#26 "middle east respiratory syndrome":ti,ab,kw
#27 "middle-east respiratory syndrome":ti,ab,kw
#28 #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27
#29 lopinav*
#30 LPV*
#31 "ABT-378"
#32 "ABT 378"
#33 ABT378*
#34 kaletra*
#35 #29 OR #30 OR #31 OR #32 OR #33 OR #34
#36 #28 AND #35

Databases and registries automatically screened by Epistemonikos Database for COVID-19 ('COVID-19 repository')
Updated daily or more than daily

PubMed
coronavir* OR coronavirus* OR "corona virus" OR "virus corona" OR "corono virus" OR "virus corono" OR hcov* OR "covid-19" OR covid19* OR "covid 19" OR 2019-nCoV OR cv19* OR "cv-19" OR "cv 19" OR "n-cov" OR ncov* OR "sars-cov-2" OR (wuhan* AND (virus OR viruses OR viral OR coronav*)) OR (covid* AND (virus OR viruses OR viral)) OR "sars-cov" OR "sars cov" OR "sars-coronavirus" OR "severe acute respiratory syndrome" OR "mers-cov" OR "mers cov" OR "middle east respiratory syndrome" OR "middle-east respiratory syndrome"
COVID-19 SARS-CoV-2 preprints from medRxiv and bioRxiv
https://connect.medrxiv.org/relate/content/181
* All the articles in this list are uploaded

Clinicaltrials.gov
https://clinicaltrials.gov/
Search date: May 17, 2020
"SARS-COV-2" OR "Sars-CoV2" OR nCoV OR COVID OR Coronavirus OR Corona OR "covid-19" OR covid19 OR "covid 19" OR "2019-nCoV" OR cv19 OR "cv-19" OR "cv 19" OR "n-cov" OR coronavirus

ISRCTN registry
https://www.isrctn.com/
Search date: May 17, 2020
lopinav* OR LPV* OR "ABT-378" OR "ABT 378" OR ABT378* OR kaletra*

Chinese Clinical Trial Registry
http://www.chictr.org.cn/
Search date: May 17, 2020
Separate searches for the following terms:
coronavirus; coronavirus; corona virus; virus corona; corono virus; virus corona; hcov; covid-19; covid19; covid 19; 2019-nCoV; cv19; cv-19; cv 19; n-cov; ncov; sars-cov-2; sars-cov2; SARS-Coronavirus-2; SARS-Coronavirus2

Iranian Registry of Clinical Trials
https://www.irct.ir/
Search date: May 17, 2020
((coronavir* OR coronavirus* OR "corona virus" OR "virus corona" OR "corono virus" OR "virus corono" OR hcov* OR "covid-19" OR covid19* OR "covid 19" OR "2019-nCoV" OR cv19* OR "cv-19" OR "cv 19" OR "n-cov" OR ncov* OR "sars-cov-2" OR "sars-cov2" OR "SARS-Coronavirus-2" OR "SARS-Coronavirus2" OR (wuhan* AND (virus OR viruses OR viral)) OR (covid* AND (virus OR viruses OR viral)) OR "sars-cov" OR "sars cov" OR "sars-coronavirus"
Lopinavir/ritonavir for COVID-19: A living systematic review
doi: 10.5867/medwave.2020.06.7966

OR "severe acute respiratory syndrome" OR "mers-cov" OR "mers cov" OR "middle east respiratory syndrome" OR "middle-east respiratory syndrome" OR "covid-19-related" OR "SARS-CoV-2-related" OR "SARS-CoV2-related" OR "2019-nCoV-related" OR "cv-19-related" OR "n-cov-related") AND (lopinav* OR LPV* OR "ABT-378" OR "ABT 378" OR ABT378* OR kaletra*)

Other databases and websites specialised in COVID-19 manually searched for this review

Google Scholar
https://scholar.google.com/
Search date: May 17, 2020
allintitle:"COVID-19"|COVID19|2019nCoV|"Corona Virus"|Coronavirus|"CoV2"|CoV2|COVID|nCoV|SARS2|SARS-CoV|"SARS-CoV"

EU Clinical Trials Register: Clinical trials for covid-19
Search date: May 17, 2020
* All the references in this list were screened

NIPH Clinical Trials Search (Japan)
Search date: May 17, 2020
https://rctportal.niph.go.jp/en/
Separate searches for the following terms:
coronavirus; coronavirus; corona virus; virus corona; corono virus; virus corono; hcov; covid-19; covid19; covid 19; 2019-nCoV; cv 19; cv-19; cv 19; n-cov; ncov; sars-cov-2; sars-cov2; SARS-Coronavirus-2; SARS-Coronavirus2

Clinical Research Information System (Korea)
Search date: May 17, 2020
Separate searches for the following terms:
Lopinavir/ritonavir for COVID-19: A living systematic review
doi: 10.5867/medwave.2020.06.7966

coronavirus; coronovirus; corona virus; virus corona; corono virus; virus corono; hcov; covid-19; covid19; covid 19; 2019-nCoV; cv 19; cv-19; cv 19; n-cov; ncov; sars-cov-2; sars-cov2; SARS-Coronavirus-2; SARS-Coronavirus2

ICTRP Search Portal
Search date: May 17, 2020
http://apps.who.int/trialsearch
lopinav* OR LPV* OR "ABT-378" OR "ABT 378" OR ABT378* OR kaletra*

Cochrane COVID-19 Study Register
Search date: May 17, 2020
https://covid-19.cochrane.org/
lopinav* OR LPV* OR "ABT-378" OR "ABT 378" OR ABT378* OR kaletra*

Resources scanned without using a search strategy
7. COVID-19 Special Collection (JBI) (https://jbi.global/ebp/covid-19)