



Supplementary Figure 1: Search strategy and search terms

1. Medline

<p>Interface: Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations and Daily</p> <p>Date of Search: 26th October 2021</p> <p>Number of hits: 444</p> <p>Comment: In Ovid, two or more words are automatically searched as phrases; i.e. no quotation marks are needed</p>	<p>Field labels</p> <ul style="list-style-type: none"> • exp/ = exploded MeSH term • / = non exploded MeSH term • .ti,ab,kf. = title, abstract and author keywords • adjx = within x words, regardless of order • * = truncation of word for alternate endings 																																													
<p>Database(s): Ovid MEDLINE(R) and Epub Ahead of Print, In-Process, In-Data-Review & Other Non-Indexed Citations and Daily 1946 to October 25, 2021</p> <p>Search Strategy:</p> <table border="1"> <thead> <tr> <th>#</th> <th>Searches</th> <th>Results</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Cytokine Release Syndrome/</td> <td>1316</td> </tr> <tr> <td>2</td> <td>Interleukin-1/</td> <td>35705</td> </tr> <tr> <td>3</td> <td>Interleukin-6/</td> <td>67997</td> </tr> <tr> <td>4</td> <td>Systemic Inflammatory Response Syndrome/</td> <td>6384</td> </tr> <tr> <td>5</td> <td>(cytokine* adj3 (storm* or syndrome*).ti,ab,kf.</td> <td>6121</td> </tr> <tr> <td>6</td> <td>((inflammatory response or multi-system inflammatory or sepsis or septic or systemic inflammat*) adj3 syndrome*).ti,ab,kf.</td> <td>9329</td> </tr> <tr> <td>7</td> <td>(hypercytokinemia* or hypercytokinaemia* or interleukin 1 or interleukin1 or interleukin i or il-1 or il1 or interferon beta 2 or interferon beta2 or interleukin b or interleukin hp1 or interleukin 6 or interleukin6 or IL6 or IL 6).ti,ab,kf.</td> <td>199037</td> </tr> <tr> <td>8</td> <td>((b-cell differentiation or b-cell stimulatory or b lymphocyte stimulating or hepatocyte stimulating or hybridoma or plasmacytoma) adj2 factor*).ti,ab,kf.</td> <td>710</td> </tr> <tr> <td>9</td> <td>or/1-8</td> <td>231624</td> </tr> <tr> <td>10</td> <td>Macrophage Activation Syndrome/</td> <td>557</td> </tr> <tr> <td>11</td> <td>Lymphohistiocytosis, Hemophagocytic/</td> <td>3250</td> </tr> <tr> <td>12</td> <td>(macrophage activati* adj2 syndrome*).ti,ab,kf.</td> <td>1234</td> </tr> <tr> <td>13</td> <td>((Erythrophagocyt* or hemophagocyt*) adj2 (histiocy* or hymphohistiocyt* or lymphohistiocyt* or reticulosis or syndrome*).ti,ab,kf.</td> <td>5341</td> </tr> <tr> <td>14</td> <td>or/10-13</td> <td>7028</td> </tr> </tbody> </table>		#	Searches	Results	1	Cytokine Release Syndrome/	1316	2	Interleukin-1/	35705	3	Interleukin-6/	67997	4	Systemic Inflammatory Response Syndrome/	6384	5	(cytokine* adj3 (storm* or syndrome*).ti,ab,kf.	6121	6	((inflammatory response or multi-system inflammatory or sepsis or septic or systemic inflammat*) adj3 syndrome*).ti,ab,kf.	9329	7	(hypercytokinemia* or hypercytokinaemia* or interleukin 1 or interleukin1 or interleukin i or il-1 or il1 or interferon beta 2 or interferon beta2 or interleukin b or interleukin hp1 or interleukin 6 or interleukin6 or IL6 or IL 6).ti,ab,kf.	199037	8	((b-cell differentiation or b-cell stimulatory or b lymphocyte stimulating or hepatocyte stimulating or hybridoma or plasmacytoma) adj2 factor*).ti,ab,kf.	710	9	or/1-8	231624	10	Macrophage Activation Syndrome/	557	11	Lymphohistiocytosis, Hemophagocytic/	3250	12	(macrophage activati* adj2 syndrome*).ti,ab,kf.	1234	13	((Erythrophagocyt* or hemophagocyt*) adj2 (histiocy* or hymphohistiocyt* or lymphohistiocyt* or reticulosis or syndrome*).ti,ab,kf.	5341	14	or/10-13	7028
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15	9 or 14	237794
16	Immune Checkpoint Inhibitors/	2924
17	Ipilimumab/	2300
18	Nivolumab/	3587
19	(atezolizumab or avelumab or cemiplimab or durvalumab or pembrolizumab).nm.	3755
20	(atezolizumab or avelumab or cemiplimab or durvalumab or ipilimumab or nivolumab or pembrolizumab).ti,ab,kf.	13171
21	((CTLA-4 or CTLA4 or Cytotoxic T-Lymphocyte-Associated Protein 4 or checkpoint or PD-1 or PD1 or PD-L1 or PDL1 or Programmed Death-Ligand 1 or Programmed Cell Death Protein 1) adj3 (block* or inhibit*)).ti,ab,kf.	30253
22	(Anti-CTLA-4 MAb or strentarga or yervoy).ti,ab,kf.	169
23	(anti-PDL1 or anti-PD L1 or monoclonal antibody mpdl 3280a or monoclonal antibody mpdl3280a or tecentriq).ti,ab,kf.	2132
24	(bavencio or imfinzi or keytruda or lambrolizumab or libtayo).ti,ab,kf.	135
25	or/16-24	38419
26	15 and 25	527
27	26 not (animals not humans).sh.	465
28	limit 27 to yr="2013 -Current"	444



Supplementary Figure 1: Search strategy and search terms

2. Embase

Interface: embase.com		Field labels
Date of Search: 26 th October 2021		<ul style="list-style-type: none"> • /exp = exploded Emtree term • /de = non exploded Emtree term • ti,ab,kw = title, abstract and author keywords • NEAR/x = within x words, regardless of order • * = truncation of word for alternate endings
Number of hits: 1,579		
Comment: Emtree is the controlled vocabulary in Embase		
No.	Query	Results
#1	'cytokine storm'/exp	10555
#2	'interleukin 1'/de	67261
#3	'interleukin 6'/de	279870
#4	'systemic inflammatory response syndrome'/de	13389
#5	(cytokine* NEAR/3 (storm* OR syndrome*)):ti,ab,kw	9621
#6	((('inflammatory response' OR 'multi-system inflammatory' OR sepsis OR septic OR 'systemic inflammat*') NEAR/3 syndrome*)):ti,ab,kw	14236
#7	hypercytokinemia*:ti,ab,kw OR hypercytokinaemia*:ti,ab,kw OR 'interleukin 1':ti,ab,kw OR interleukin1:ti,ab,kw OR 'interleukin i':ti,ab,kw OR 'il-1':ti,ab,kw OR il1:ti,ab,kw OR 'interferon beta 2':ti,ab,kw OR 'interferon beta2':ti,ab,kw OR 'interleukin b':ti,ab,kw OR 'interleukin hp1':ti,ab,kw OR 'interleukin 6':ti,ab,kw OR interleukin6:ti,ab,kw OR il6:ti,ab,kw OR 'il 6':ti,ab,kw	274664
#8	((('b-cell differentiation' OR 'b-cell stimulatory' OR 'b lymphocyte stimulating' OR 'hepatocyte stimulating' OR hybridoma OR plasmacytoma) NEAR/2 factor*)):ti,ab,kw	787
#9	#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8	401096
#10	'hemophagocytic syndrome'/exp	11879
#11	('macrophage activati*' NEAR/2 syndrome*):ti,ab,kw	2383
#12	((erythrophagocyt* OR hemophagocyt*) NEAR/2 (histiocy* OR lymphohistiocy* OR lymphohistiocy* OR reticulosis OR syndrome*)):ti,ab,kw	8173
#13	#10 OR #11 OR #12	13379
#14	#9 OR #13	412207
#15	'immune checkpoint inhibitor'/de	8085
#16	'avelumab'/de	3790
#17	'atezolizumab'/de	8825
#18	'cemiplimab'/de	724
#19	'durvalumab'/de	6008

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#20	'ipilimumab'/de	17977
#21	'nivolumab'/de	25266
#22	'pembrolizumab'/de	23295
#23	atezolizumab:ti,ab,kw OR avelumab:ti,ab,kw OR cemiplimab:ti,ab,kw OR durvalumab:ti,ab,kw OR ipilimumab:ti,ab,kw OR nivolumab:ti,ab,kw OR pembrolizumab:ti,ab,kw	30924
#24	(('ctla-4' OR ctla4 OR 'cytotoxic t-lymphocyte-associated protein 4' OR checkpoint OR 'pd-1' OR pd1 OR 'pd-l1' OR pdl1 OR 'programmed death-ligand 1' OR 'programmed cell death protein 1') NEAR/3 (block* OR inhibit*)):ti,ab,kw	55830
#25	'anti-ctla-4 mab':ti,ab,kw OR strentarga:ti,ab,kw OR yervoy:ti,ab,kw	316
#26	'anti-pdl1':ti,ab,kw OR 'anti-pd l1':ti,ab,kw OR 'monoclonal antibody mpdl 3280a':ti,ab,kw OR 'monoclonal antibody mpdl3280a':ti,ab,kw OR tecentriq:ti,ab,kw	5479
#27	bavencio:ti,ab,kw OR imfinzi:ti,ab,kw OR keytruda:ti,ab,kw OR lambrolizumab:ti,ab,kw OR libtayo:ti,ab,kw	319
#28	#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	85919
#29	#14 AND #28	2602
#30	#29 NOT ([animals]/lim NOT [humans]/lim)	2277
#31	#30 AND ('Conference Abstract'/it OR 'Conference Paper'/it)	631
#32	#30 NOT #31	1646
#33	#32 AND (2013:py OR 2014:py OR 2015:py OR 2016:py OR 2017:py OR 2018:py OR 2019:py OR 2020:py OR 2021:py OR 2022:py)	1579



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3. Web of Science Core Collection

Interface: Clarivate Analytics		Field labels
Date of Search: 26 th October 2021		<ul style="list-style-type: none"> • TS/Topic = title, abstract, author keywords and Keywords Plus • NEAR/x = within x words, regardless of order • * = truncation of word for alternate endings
Number of hits: 632		
Note: sometimes "quotation marks" are needed for single search terms to avoid automatic term mapping (lemmatization).		
#1	TS=(cytokine* NEAR/2 (storm* or syndrome*)	6,944
#2	TS=(("inflammatory response" OR "multi-system inflammatory" OR "sepsis" OR "septic" OR "systemic inflammat*") NEAR/2 syndrome*)	10,737
#3	TS=(hypercytokinemia* OR hypercytokinaemia* OR "interleukin 1" OR "interleukin1" OR "interleukin i" OR "il-1" OR "il1" OR "interferon beta 2" OR "interferon beta2" OR "interleukin b" OR "interleukin hp1" OR "interleukin 6" OR "interleukin6" OR "IL6" OR "IL 6")	278,354
#4	TS=(("b-cell differentiation" OR "b-cell stimulatory" OR "b lymphocyte stimulating" OR "hepatocyte stimulating" OR "hybridoma" OR "plasmacytoma") NEAR/1 factor*)	875
#5	TS=("macrophage activati*" NEAR/1 syndrome*)	2,067
#6	TS=((erythrophagocyt* OR hemophagocyt*) NEAR/1 (histiocy* OR hymphohistiocy* OR lymphohistiocy* OR "reticulosis" OR syndrome*))	7,347
#7	#6 OR #5 OR #4 OR #3 OR #2 OR #1	300,364
#8	TS=(atezolizumab OR avelumab OR cemiplimab OR durvalumab OR ipilimumab OR nivolumab OR pembrolizumab)	28,861
#9	TS=(("CTLA-4" OR "CTLA4" OR "cytotoxic t-lymphocyte-associated protein 4" OR "checkpoint" OR "PD-1" OR "PD1" OR "PD-L1" OR "PDL1" OR "programmed death-ligand 1" OR "programmed cell death protein 1") NEAR/2 (block* OR inhibit*))	37,463
#10	TS=("Anti-CTLA-4 MAb" OR "strentarga" OR "yervoy")	159
#11	TS=("anti-PDL1" OR "anti-PD L1" OR "monoclonal antibody mpdl 3280a" OR "monoclonal antibody mpdl3280a" OR "tecentriq")	3,108
#12	TS=("bavencio" OR "imfinzi" OR "keytruda" OR "lambrolizumab" OR "libtayo")	150
#13	#12 OR #11 OR #10 OR #9 OR #8	55,381
#14	Refined by: PUBLICATION YEARS: (2021 OR 2015 OR 2020 OR 2014 OR 2019 OR 2013 OR 2018 OR 2017 OR 2016) Indexes=SCI-EXPANDED, SSCI, A&HCI, ESCI Timespan=1945-2021	670

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#15	#13 AND #7 Refined by: PUBLICATION YEARS: (2021 OR 2015 OR 2020 OR 2014 OR 2019 OR 2013 OR 2018 OR 2017 OR 2016) <i>Indexes=SCI-EXPANDED, SSCI, A&HCI, ESCI Timespan=1945-2021</i>	632
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