

Appendix 2 Search strategy and results

Table 1 Number of citations by each database and trial register searched

Databases and trial registers	Citations
Databases	
Medline	5103
Embase	8648
Cochrane Library	2122
Total databases	15873
Trial registers	
ClinicalTrials.gov	446
Total trial registers	446

Table 2 Search strategy for Ovid-Medline

1	*Glucagon-Like Peptide-1 Receptor/ or glucagon-like peptide-1 agonists.mp. or *Glucagon-Like Peptide 1/
2	glucagon like peptide*.ti,ab.
3	Receptors, Glucagon/ag [Agonists]
4	exenatide.af.
5	liraglutide.af.
6	albiglutide.af.
7	tasoglutide.af.
8	lixisenatide.af.
9	dulaglutide.af.
10	semaglutide.af.
11	Byetta.af.
12	Bydureon.af.
13	Victoza.af.
14	Lyxumia.af.
15	Adlyxin.af.
16	Tanzeum.af.
17	Eperzan.af.
18	Trulicity.af.
19	ZP10A peptide*.af.
20	"AVE 0010".af.
21	GLP 1 Receptor Agonist*.af.
22	GLP 1 RA*.af.
23	GLP 1RA*.af.
24	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
25	Dipeptidyl Peptidase 4 inhibitor.mp. or exp *Dipeptidyl-Peptidase IV Inhibitors/
26	dipeptidyl peptidase IV inhibit*.af.
27	Dipeptidyl Peptidase 4 Inhibit*.af.
28	DPP 4 inhibit*.af.
29	DPP4 inhibit*.af.
30	DPP4i.af.
31	DPP IV inhibit*.af.
32	DPPIV inhibit*.af.
33	sitagliptin.af.
34	Januvia.af.
35	Janumet.af.
36	Juvisync.af.
37	vildagliptin.af.
38	Galvus.af.

39	Eucreas.af.
40	Galvus Met.af.
41	saxagliptin.af.
42	Onglyza.af.
43	Kombiglyze XR.af.
44	alogliptin.af.
45	Nesina.af.
46	Oseni.af.
47	Kazano.af.
48	linagliptin.af.
49	Trajenta.af.
50	gemigliptin.af.
51	Gemiglo.af.
52	anagliptin.af.
53	Beskoa.af.
54	teneligliptin.af.
55	Tenelia.af.
56	Trelagliptin.af.
57	PF 734200.af.
58	retagliptin.af.
59	Melogliptin.af.
60	evogliptin.af.
61	Carmegliptin.af.
62	"LC15 0444".af.
63	DA-1229.af.
64	omarigliptin.af.
65	gliptin*.af.
66	dutogliptin.af.
67	or/25-66
68	24 or 67
69	(clinical trial or controlled clinical trial or randomized controlled trial).pt.
70	clinical trials.mp. or exp *Clinical Trial/
71	clinical trials as topic/ or controlled clinical trials as topic/ or randomized controlled trials as topic/
72	random*.ti,ab.
73	clinical trial*.ti,ab.
74	controlled trial*.ti,ab.
75	case-control studies/
76	retrospective studies/
77	cohort studies/
78	longitudinal studies/

79	follow-up studies/
80	prospective studies/
81	cohort.ti,ab.
82	longitudinal.ti,ab.
83	follow up.ti,ab.
84	followup.ti,ab.
85	prospective*.ti,ab.
86	retrospective*.ti,ab.
87	nonrandom*.ti,ab.
88	comparison group*.ti,ab.
89	control group*.ti,ab.
90	database*.ti,ab.
91	population*.ti,ab.
92	registries/
93	registries.ti,ab.
94	trial\$1 register.ti.
95	trial\$1 registers.ti.
96	or/69-95
97	24 and 96
98	67 and 96
99	68 and 96
100	limit 97 to humans
101	limit 97 to animals
102	101 not 100
103	97 not 102
104	limit 98 to humans
105	limit 98 to animals
106	105 not 104
107	98 not 106
108	limit 99 to humans
109	limit 99 to animals
110	109 not 108
111	99 not 110
112	103 or 107
113	meta analysis.pt.
114	Meta-Analysis as Topic/
115	meta analy*.ti.
116	metaanaly*.ti.
117	113 or 114 or 115 or 116
118	24 and 117
119	67 and 117

120	68 and 117
121	limit 118 to humans
122	limit 118 to animals
123	122 not 121
124	118 not 123
125	limit 119 to humans
126	limit 119 to animals
127	126 not 125
128	119 not 127
129	limit 120 to humans
130	limit 120 to animals
131	130 not 129
132	120 not 131
133	103 not 124
134	107 not 128
135	111 not 132
136	133 or 134
137	remove duplicates from 133
138	remove duplicates from 134
139	Remove duplicates from 135

Table3 Search strategy for Embase

#1	'glucagon like peptide'/exp
#2	'glucagon like peptide 1'/exp
#3	'glp-1 receptor agonists'
#4	'glucagon like peptide 1 receptor agonists'
#5	'glucagon receptor'/exp
#6	'glucagon-like peptide-1 agonists'
#7	'glp-1 receptor agonist'
#8	'glucagon like peptide 1 receptor agonist'
#9	'glp-1 agonist'
#10	'glp-1 agonists'
#11	'glp-1 ra*'
#12	'exenatide'/exp
#13	'liraglutide'/exp
#14	'albiglutide'/exp
#15	'tasoglutide'/exp
#16	'lixisenatide'/exp
#17	'dulaglutide'/exp
#18	'semaglutide'/exp
#19	'zp10a peptide'
#20	'zp10a peptide 1'
#21	'glp1 ra'
#22	#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
#23	'dipeptidyl peptidase iv inhibitor'
#24	'dipeptidyl peptidase iv inhibitors'
#25	'dipeptidyl peptidase iv inhibitor'/exp
#26	'dpp 4 inhibitor*'
#27	'dpp iv inhibitor*'
#28	'dpp4i'
#29	'dpp4 i'
#30	'dpp4 inhibitor*'
#31	'dppiv inhibitor*'
#32	'alogliptin'/exp
#33	'sitagliptin'/exp
#34	'gemigliptin'/exp
#35	'linagliptin'/exp
#36	'saxagliptin'/exp
#37	'vildagliptin'/exp
#38	'dutogliptin'/exp
#39	'teneligliptin'/exp
#40	'anagliptin'/exp
#41	'trelagliptin'/exp

#42	'pf-734200'/exp
#43	'melogliptin'/exp
#44	'evogliptin'/exp
#45	'retagliptin'
#46	'carmegliptin'/exp
#47	'lc15 0444'
#48	'tenelia'
#49	'da-1229'
#50	'omarigliptin'/exp
#51	'beskoa'
#52	'gemiglo'
#53	'trajenta'
#54	'kazano'
#55	'oseni'
#56	'nesina'
#57	'kombiglyze xr'
#58	'onglyza'
#59	'eucreas'
#60	'galvus'
#61	'juvisync'
#62	'janumet'
#63	'januvia'
#64	'liptin'
#65	'gliptin'/exp
#66	#23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29 OR #30 OR #31 OR #32 OR #33 OR #34 OR #35 OR #36 OR #37 OR #38 OR #39 OR #40 OR #41 OR #42 OR #43 OR #44 OR #45 OR #46 OR #47 OR #48 OR #49 OR #50 OR #51 OR #52 OR #53 OR #54 OR #55 OR #56 OR #57 OR #58 OR #59 OR #60 OR #61 OR #62 OR #63 OR #64 OR #65
#67	#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 OR #28 OR #29 OR #30 OR #31 OR #32 OR #33 OR #34 OR #35 OR #36 OR #37 OR #38 OR #39 OR #40 OR #41 OR #42 OR #43 OR #44 OR #45 OR #46 OR #47 OR #48 OR #49 OR #50 OR #51 OR #52 OR #53 OR #54 OR #55 OR #56 OR #57 OR #58 OR #59 OR #60 OR #61 OR #62 OR #63 OR #64 OR #65 OR #66
#68	'clinical trial'/exp OR 'controlled clinical trial'/exp OR 'randomized controlled trial'/exp
#69	random*
#70	'case-control studies'/exp
#71	'retrospective studies'/exp
#72	'cohort studies'/exp
#73	'longitudinal studies'/exp

#74	'follow up studies'/exp
#75	nonrandom
#76	'prospective studies'/exp
#77	'comparison group'
#78	'control group'/exp
#79	database*
#80	'database'/exp
#81	'registries'/exp
#82	'registration'/exp
#83	#68 OR #69 OR #70 OR #71 OR #72 OR #73 OR #74 OR #75 OR #76 OR #77 OR #78 OR #79 OR #80 OR #81 OR #82
#84	#22 AND #83
#85	#22 AND #83 AND [humans]/lim
#86	#22 AND #83 AND [animals]/lim
#87	#86 NOT #85
#88	#84 NOT #87
#89	#66 AND #83
#90	#66 AND #83 AND [humans]/lim
#91	#66 AND #83 AND [animals]/lim
#92	#91 NOT #90
#93	#89 NOT #92
#94	#67 AND #83
#95	#67 AND #83 AND [humans]/lim
#96	#67 AND #83 AND [animals]/lim
#97	#96 NOT #95
#98	#94 NOT #97
#99	#88 AND ([article]/lim OR [article in press]/lim OR [conference abstract]/lim OR [conference paper]/lim)
#100	#93 AND ([article]/lim OR [article in press]/lim OR [conference abstract]/lim OR [conference paper]/lim)
#101	#98 AND ([article]/lim OR [article in press]/lim OR [conference abstract]/lim OR [conference paper]/lim)
#102	#99 AND [embase]/lim
#103	#100 AND [embase]/lim
#104	#101 AND [embase]/lim

Table4 Search strategy for Cochrane Library

S45	s42	Limiters - MEDLINE Publication Type: Multicenter Study, Randomized Controlled Trial, Validation Studies, Clinical Conference, Clinical Trial, Clinical Trial, Phase I, Clinical Trial, Phase II, Clinical Trial, Phase III, Clinical Trial, Phase IV, Congresses, Consensus Development Conference, Controlled Clinical Trial, Corrected and Republished Article, Duplicate Publication, Evaluation Studies, Journal Article Search modes - Boolean/Phrase
S44	s17	Limiters - MEDLINE Publication Type: Multicenter Study, Randomized Controlled Trial, Validation Studies, Clinical Conference, Clinical Trial, Clinical Trial, Phase I, Clinical Trial, Phase II, Clinical Trial, Phase III, Clinical Trial, Phase IV, Congresses, Consensus Development Conference, Controlled Clinical Trial, Corrected and Republished Article, Duplicate Publication, Evaluation Studies, Journal Article Search modes - Boolean/Phrase
S43	S41	Limiters - MEDLINE Publication Type: Multicenter Study, Randomized Controlled Trial, Validation Studies, Clinical Conference, Clinical Trial, Clinical Trial, Phase I, Clinical Trial, Phase II, Clinical Trial, Phase III, Clinical Trial, Phase IV, Congresses, Consensus Development Conference, Controlled Clinical Trial, Corrected and Republished Article, Duplicate Publication, Evaluation Studies, Journal Article Search modes - Boolean/Phrase
S42	S17 OR S41	Search modes - Boolean/Phrase
S41	S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S25 OR S26 OR S27 OR S28 OR S29 OR S30 OR S31 OR S32 OR S33 OR S34 OR S35 OR S36 OR S37 OR S38 OR S39 OR S40	Search modes - Boolean/Phrase
S40	TX Januvia OR TX Janumet OR TX Juvisync OR TX Galvus OR TX Eucreas OR TX Onglyza OR TX Kombiglyze OR TX Nesina OR TX Oseni OR TX Kazano OR TX Trajenta OR TX Gemiglo OR TX Beskoa OR TX Tenelia	Search modes - Boolean/Phrase
S39	TX Carmegliptin	Search modes - Boolean/Phrase
S38	TX Evogliptin	Search modes - Boolean/Phrase
S37	TX Melogliptin	Search modes - Boolean/Phrase
S36	TX Retagliptin	Search modes - Boolean/Phrase

S35	TX PF-734200	Search modes - Boolean/Phrase
S34	TX Trelagliptin	Search modes - Boolean/Phrase
S33	TX anagliptin	Search modes - Boolean/Phrase
S32	TX gemigliptin	Search modes - Boolean/Phrase
S31	TX LC15 0444	Search modes - Boolean/Phrase
S30	TX teneligliptin	Search modes - Boolean/Phrase
S29	TX dutogliptin	Search modes - Boolean/Phrase
S28	TX linagliptin	Search modes - Boolean/Phrase
S27	TX saxagliptin	Search modes - Boolean/Phrase
S26	TX vildagliptin	Search modes - Boolean/Phrase
S25	TX sitagliptin	Search modes - Boolean/Phrase
S24	TX alogliptin	Search modes - Boolean/Phrase
S23	TX DPP IV inhibit* OR TX DPPIV inhibit*	Search modes - Boolean/Phrase
S22	TX DPP4i	Search modes - Boolean/Phrase
S21	TX DPP 4 inhibit* OR TX DPP4 inhibit*	Search modes - Boolean/Phrase
S20	TX dipeptidyl-peptidase 4 inhibitor OR TX dipeptidyl-peptidase 4 inhibitors	Search modes - Boolean/Phrase
S19	TX dipeptidyl-peptidase iv inhibitors OR TX dipeptidyl-peptidase iv inhibitor	Search modes - Boolean/Phrase
S18	(ZE "dipeptidyl-peptidase iv inhibitors") or (ZE "dipeptidyl-peptidase iv inhibitors administration & dosage") or (ZE "dipeptidyl-peptidase iv inhibitors adverse effects") or (ZE "dipeptidyl-peptidase iv inhibitors pharmacokinetics") or (ZE "dipeptidyl-peptidase iv inhibitors pharmacology") or (ZE "dipeptidyl-peptidase iv inhibitors therapeutic use") or (ZE "dipeptidyl-peptidase iv inhibitors toxicity")	Search modes - Boolean/Phrase
S17	S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16	Search modes - Boolean/Phrase

S16	TX Byetta OR TX Bydureon OR TX Victoza OR TX Lyxumia OR TX Adlyxin OR TX Tanzeum OR TX Eperzan OR TX Trulicity OR TX AVE 0010	Search modes - Boolean/Phrase
S15	TX GLP 1RA*.	Search modes - Boolean/Phrase
S14	TX GLP 1 RA*.	Search modes - Boolean/Phrase
S13	TX GLP 1 Receptor Agonist*.	Search modes - Boolean/Phrase
S12	TX ZP10A peptide*	Search modes - Boolean/Phrase
S11	TX semaglutide	Search modes - Boolean/Phrase
S10	TX dulaglutide	Search modes - Boolean/Phrase
S9	TX lixisenatide	Search modes - Boolean/Phrase
S8	TX taspoglutide	Search modes - Boolean/Phrase
S7	TX albiglutide	Search modes - Boolean/Phrase
S6	TX liraglutide	Search modes - Boolean/Phrase
S5	TX exenatide	Search modes - Boolean/Phrase
S4	S1 OR S2 OR S3	Search modes - Boolean/Phrase
S3	TX glp-1 OR TX glp1	Search modes - Boolean/Phrase
S2	TX glucagon-like peptide 1 OR TX Glucagon-Like Peptides 1	Search modes - Boolean/Phrase
S1	(ZE "glucagon-like peptide 1") or (ZE "glucagon-like peptide 1 administration & dosage") or (ZE "glucagon-like peptide 1 agonists") or (ZE "glucagon-like peptide 1 analogs & derivatives") or (ZE "glucagon-like peptide 1 drug effects") or (ZE "glucagon-like peptide 1 therapeutic use") or (ZE "glucagon-like peptide-1 receptor agonists") or (ZE "glucagon-like peptide 1 pharmacokinetics") or (ZE "glucagon-like peptide 1 pharmacology")	Search modes - Boolean/Phrase

Search strategy for ClinicalTrials.gov

exenatide OR liraglutide OR albiglutide OR taspoglutide OR lixisenatide OR dulaglutide OR semaglutide OR Byetta OR Bydureon OR Victoza OR Lyxumia OR Adlyxin OR Tanzeum OR Eperzan OR Trulicity OR 'ZP10A peptide*' OR 'AVE 0010' OR sitagliptin OR Januvia OR Janumet OR Juvisync OR vildagliptin OR Galvus OR Eucreas OR 'Galvus Met' OR saxagliptin

OR Onglyza OR 'Kombiglyze XR' OR alogliptin OR Nesina OR Oseni OR Kazano OR linagliptin OR Trajenta OR gemigliptin OR Gemiglo OR anagliptin OR Beskoa OR teneligliptin OR Tenelia OR Trelagliptin OR 'PF 734200' OR retagliptin OR Melogliptin OR evogliptin OR Carmegliptin OR "LC15 0444" OR 'DA-1229' OR omarigliptin OR gliptin* OR dutogliptin