

Clinical trials of glucose lowering for cardiovascular prevention for diabetes type 2 in all type of patients

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1 acarbose

| Trial | Treatments | Patients | Trials design and methods |
|--|-------------------------------|---|---------------------------------|
| acarbose vs placebo | | | |
| ACE <i>ongoing</i> [NCT00829660] n=NA follow-up: | acarbose versus placebo | patients with impaired glucose tolerance who have established coronary heart disease or acute coronary syndrome | Parallel groups double-blind |

References

ACE, :

2 DPP-4 inhibitors

| Trial | Treatments | Patients | Trials design and methods |
|---|--|--|---------------------------------|
| linagliptin vs glimepiride | | | |
| CAROLINA , 2012 [NCT01243424] n=776/775 follow-up: 2 years | linagliptin versus glimepiride 1-4 mg QD | patients with type 2 diabetes at elevated cardiovascular risk receiving usual care | double-blind USA |
| alogliptin vs placebo | | | |
| EXAMINE , 2013 [NCT00968708] n=2701/2679 follow-up: 1.5 years (median) | alogliptin versus placebo | patients with type 2 diabetes and either an acute myocardial infarction or unstable angina requiring hospitalization within the previous 15 to 90 days | Parallel groups double-blind |
| linagliptin vs placebo | | | |
| CARMELINA <i>ongoing</i> [NCT01897532] n=NA follow-up: | - | - | double-blind |
| saxagliptin vs placebo | | | |
| SAVOR TIMI , 2013 [NCT01107886] n=8280/8212 follow-up: 2.1 years (median) | saxagliptin versus placebo | patients with type 2 diabetes who had a history of, or were at risk for, cardiovascular events | Parallel groups double-blind |

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| Trial | Treatments | Patients | Trials design and methods |
|--|--|--|---|
| sitagliptin vs placebo | | | |
| TECOS , 2015 [NCT00790205] n=7332/7339 follow-up: 3.0 years (median) | sitagliptin phosphate, one 50 mg or one 100 mg tablet (dose dependant on renal function) orally, once daily versus placebo | patients with Type 2 Diabetes Mellitus having a history of cardiovascular disease and a hemoglobin A1c (HbA1c) of 6.5% to 8.0% | Parallel groups double-blind 38 countries |

References

CAROLINA, 2012:

Gallwitz B, Rosenstock J, Rauch T, Bhattacharya S, Patel S, von Eynatten M, Dugi KA, Woerle HJ 2-year efficacy and safety of linagliptin compared with glimepiride in patients with type 2 diabetes inadequately controlled on metformin: a randomised, double-blind, non-inferiority trial. *Lancet* 2012 Aug 4;380:475-83 [22748821] [10.1016/S0140-6736\(12\)60691-6](https://doi.org/10.1016/S0140-6736(12)60691-6)

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CARMELINA, :

SAVOR TIMI, 2013:

Scirica BM, Bhatt DL, Braunwald E, Steg PG, Davidson J, Hirshberg B, Ohman P, Frederich R, Wiviott SD, Hoffman EB, Cavender MA, Udell JA, Desai NR, Mosenzon O, McGuire DK, Ray KK, Leiter LA, Raz I Saxagliptin and cardiovascular outcomes in patients with type 2 diabetes mellitus. *N Engl J Med* 2013;369:1317-26 [23992601]

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3 glucagon-like peptide 1 receptor agonist

| Trial | Treatments | Patients | Trials design and methods |
|---|------------|----------|---------------------------|
| dulaglutide vs placebo | | | |
| REWIND <i>ongoing</i> [NCT01394952] n=NA follow-up: | - | - | |
| exenatide vs placebo | | | |

continued...

| Trial | Treatments | Patients | Trials design and methods |
|---|---|--|---|
| EXSCEL <i>ongoing</i> [NCT01144338] n=NA | - | - | |
| liraglutide vs placebo | | | |
| LEADER , 2016 [NCT01179048] n=4668/4672 follow-up: 3.8 years (median) | Maximum dose of 1.8 mg liraglutide, injected subcutaneously once daily versus placebo | subjects with type 2 diabetes | double-blind Africa, Asia, Europe, North and South America |
| lixisenatide vs placebo | | | |
| ELIXA [NCT01147250] n=6068 follow-up: 25 months (median) | lixisenatide versus placebo | patients with T2DM and a recent ACS event | double-blind 49 countries |
| semaglutide vs placebo | | | |
| SUSTAIN 6 , 2016 [NCT01720446] n=1648/1649 follow-up: 2.1 y (median) | once-weekly semaglutide (0.5 mg or 1.0 mg) versus placebo | patients with type 2 diabetes who were on a standardcare regimen | Parallel groups double-blind 20 countries |
| tasoglutide vs placebo | | | |
| NCT01018173 <i>ongoing</i> [NCT01018173] n=NA | - | - | |

33

References

REWIND, :

EXSCEL, :

LEADER, 2016:

Steinberg WM, Nauck MA, Zinman B, Daniels GH, Bergenstal RM, Mann JF, Steen Ravn L, Moses AC, Stockner M, Baeres FM, Marso SP, Buse JB LEADER 3–lipase and amylase activity in subjects with type 2 diabetes: baseline data from over 9000 subjects in the LEADER Trial. *Pancreas* 2014;43:1223-31 [25275271]

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SUSTAIN 6, 2016:

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NCT01018173, :

4 induced HbA1c reduction

| Trial | Treatments | Patients | Trials design and methods |
|---|---------------------------------------|--|--|
| metformin vs placebo | | | |
| HOME , 2009 [NCT00375388] n=196/194 follow-up: 4.3 y | metformin 850 mg versus placebo | patients with DM2 treated with insulin | Parallel groups double-blind The Netherlands |

References

HOME, 2009:

Kooy A, de Jager J, Lehert P, Bets D, Wulfel MG, Donker AJ, Stehouwer CD Long-term effects of metformin on metabolism and microvascular and macrovascular disease in patients with type 2 diabetes mellitus. Arch Intern Med 2009;169:616-25 [19307526] 10.1001/archinternmed.2009.20

5 insulin

| Trial | Treatments | Patients | Trials design and methods |
|--|--|--|---------------------------|
| insulin glargine vs control | | | |
| ORIGINE , 2012 [NCT00069784] n=6264/6273 follow-up: 6.2 years | insulin glargine (with a target fasting blood glucose level of 95 mg per deciliter versus standard care | with cardiovascular risk factors plus impaired fasting glucose, impaired glucose tolerance, or type 2 diabetes | |

References

ORIGINE, 2012:

Gerstein HC, Bosch J, Dagenais GR, Daz R, Jung H, Maggioni AP, Pogue J, Probstfield J, Ramachandran A, Riddle MC, Rydn LE, Yusuf S Basal insulin and cardiovascular and other outcomes in dysglycemia. N Engl J Med 2012;367:319-28 [22686416]

6 PPAR modulator

| Trial | Treatments | Patients | Trials design and methods |
|---|--|---|---------------------------------|
| aleglitazar vs placebo | | | |
| ALECARDIO , 2014 [NCT01042769] n=3616/3610 follow-up: 2 years (median) | aleglitazar 150 g daily versus placebo | patients hospitalized for ACS (myocardial infarction or unstable angina) with type 2 diabetes | Parallel groups double-blind |
| ALEPREVENT [EUDRACT201200067116] n=1999 follow-up: 58 days | aleglitazar 150 g versus placebo | patients with T2D or prediabetes with established, stable CV disease | Parallel groups double-blind |

References

ALECARDIO, 2014:

Lincoff AM, Tardif JC, Schwartz GG, Nicholls SJ, Rydn L, Neal B, Malmberg K, Wedel H, Buse JB, Henry RR, Weichert A, Cannata R, Svensson A, Volz D, Grobbee DE Effect of aloglitazar on cardiovascular outcomes after acute coronary syndrome in patients with type 2 diabetes mellitus: the AleCardio randomized clinical trial. JAMA 2014 Apr 16;311:1515-25 [24682069] [10.1001/jama.2014.3321](https://doi.org/10.1001/jama.2014.3321)

ALEPREVENT, :

Erdmann E, Califf R, Gerstein HC, Malmberg K, Ruilope L, Schwartz GG, Wedel H, Volz D, Ditmarsch M, Svensson A, Bengus M Effects of the dual peroxisome proliferator-activated receptor activator aloglitazar in patients with Type 2 Diabetes mellitus or prediabetes. Am Heart J 2015;170:117-22 [26093872]

5

7 SGLT2 inhibitors

| Trial | Treatments | Patients | Trials design and methods |
|---|---|---|---|
| canagliflozin vs placebo | | | |
| CANVAS , 2017 [NCT01032629] n=5795/4347 follow-up: | - | - | |
| dapagliflozin vs placebo | | | |
| DECLARE TIMI 58 ongoing [NCT01730534] n=NA follow-up: | - | - | |
| empagliflozin vs placebo | | | |
| EMPA-REG OUTCOME , 2015 [NCT01131676] n=4687/2333 follow-up: 3.1 years (median) | 10 mg or 25 mg of empagliflozin once daily versus placebo | patients with type 2 diabetes at high cardiovascular risk | Parallel groups double-blind 42 countries |
| ertugliflozin vs placebo | | | |

continued...

| Trial | Treatments | Patients | Trials design and methods |
|--|---|--|---------------------------|
| VERTIS CV <i>ongoing</i> [NCT01986881] n=8000 follow-up: | Ertugliflozin 15 mg and 5 mg versus placebo | participants with type 2 diabetes mellitus and established vascular disease | |

References

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Neal B, Perkovic V, de Zeeuw D, Mahaffey KW, Fulcher G, Stein P, Desai M, Shaw W, Jiang J, Vercruysse F, Meininger G, Matthews D Rationale, design, and baseline characteristics of the Canagliflozin Cardiovascular Assessment Study (CANVAS)—a randomized placebo-controlled trial. *Am Heart J* 2013;166:217-223.e11 [[23895803](#)]

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DECLARE TIMI 58, :

EMPA-REG OUTCOME, 2015:

Zinman B, Inzucchi SE, Lachin JM, Wanner C, Ferrari R, Fitchett D, Bluhmki E, Hantel S, Kempthorne-Rawson J, Newman J, Johansen OE, Woerle HJ, Broedl UC Rationale, design, and baseline characteristics of a randomized, placebo-controlled cardiovascular outcome trial of empagliflozin (EMPA-REG OUTCOME). *Cardiovasc Diabetol* 2014;13:102 [[24943000](#)]

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VERTIS CV, :

8 thiazolidinediones

| Trial | Treatments | Patients | Trials design and methods |
|--|---|--|---------------------------|
| rosiglitazone vs metformin/sulfonylurea | | | |
| RECORD , 2013 [NCT00379769] n=NA follow-up: | - | - | |
| pioglitazone vs placebo | | | |
| IRIS , 2016 [NCT00091949] n=NA | - | - | |
| PROACTIVE [NCT00174993] n=2605/2633 follow-up: 34.5 months | oral pioglitazone titrated from 15 mg to 45 mg versus placebo | patients with type 2 diabetes who had evidence of macrovascular disease. | |

References

RECORD, 2013:

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9 About TrialResults-center.org

~ TrialResults-center is an innovative knowledge database that collects the results of RCTs and provides dynamic interactive systematic reviews and meta-analysis in the field of all major heart and vessels diseases.

The TrialResults-center database provides a unique view of the treatment efficacy based on all data provided directly from clinical trial results, offering a valuable alternative to personal bibliographic search, published meta-analysis, etc. Furthermore, it would allow comparing easily the various concurrent therapeutic for the same clinical condition.

Rigorous meta-analysis method is used to populate TrialResults-center: widespread search of published and non published trials, study selection using pre-specified criteria, data extraction using standard form.

TrialResults-center is continually updated on a weekly basis. We continually search all new results (whatever their publication channel) and these news results are immediately added to the database with a maximum of 1 week.

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