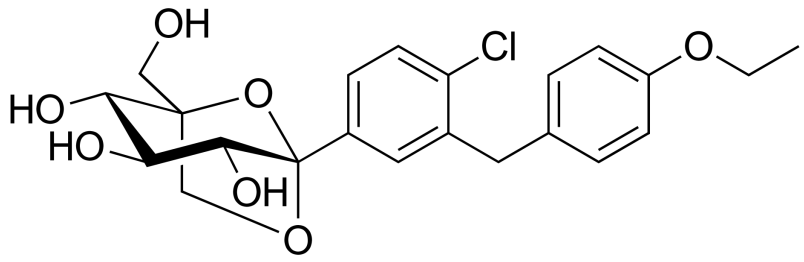
Brand Name: Steglatro
Generic: ertugliflozin
Type: small molecule
Year Accepted/Phase: 2017

Mechanism:

Ertugliflozin works by inhibiting SGLT2, a protein in the kidneys responsible for reabsorbing glucose back into the bloodstream. By blocking this protein, ertugliflozin reduces glucose reabsorption and increases the excretion of glucose in the urine, thereby lowering blood glucose levels.

Chemical Structure:



Indication:

Steglatro is indicated to improve glycemic control in adults with type 2 diabetes mellitus, in conjunction with diet and exercise.

Clinical trials:

VERTIS MONO Trial (Phase III)

Pubmed: https://pubmed.ncbi.nlm.nih.gov/29419917/

Purpose: Evaluate the efficacy and safety of ertugliflozin monotherapy compared to placebo in patients with type 2 diabetes mellitus inadequately controlled on diet and exercise alone.

Dates: Conducted from 2014 to 2016.

Results: The trial showed that ertugliflozin significantly reduced HbA1c levels compared to placebo at week 26. The primary endpoint of HbA1c reduction was met, and significant improvements in fasting plasma glucose and body weight were also observed. The safety profile was consistent with other SGLT2 inhibitors, with genital mycotic infections being more common in the ertugliflozin group.

Impact: These results supported the efficacy of ertugliflozin as monotherapy for improving glycemic control in patients with type 2 diabetes mellitus.

VERTIS SU Trial (Phase III)

Pubmed: https://pubmed.ncbi.nlm.nih.gov/29282633/
https://pubmed.ncbi.nlm.nih.gov/30760125/

Purpose: Assess the efficacy and safety of ertugliflozin compared to glimepiride in patients with type 2 diabetes mellitus inadequately controlled on metformin monotherapy.

Dates: Conducted from 2014 to 2017.

Results: The trial demonstrated that ertugliflozin was non-inferior to glimepiride in reducing HbA1c levels at week 52. Ertugliflozin showed a better profile in terms of weight loss and lower risk of hypoglycemia compared to glimepiride. The safety findings were consistent with the known profile of SGLT2 inhibitors.

Impact: The study supported the use of ertugliflozin as an effective alternative to sulfonylureas like glimepiride, with additional benefits of weight reduction and lower hypoglycemia risk.

VERTIS CV Trial (Phase III)

Pubmed: https://pubmed.ncbi.nlm.nih.gov/32966714/

Purpose: Evaluate the cardiovascular safety of ertugliflozin in patients with type 2 diabetes mellitus and established cardiovascular disease.

Dates: Conducted from 2015 to 2019.

Results: The trial met its primary endpoint by demonstrating that ertugliflozin was non-inferior to placebo in terms of major adverse cardiovascular events (MACE). The study also showed benefits in reducing hospitalization for heart

failure. The safety profile was consistent with other SGLT2 inhibitors, with no new safety signals identified.
Impact: These results provided important cardiovascular safety data, supporting the use of ertugliflozin in patients with type 2 diabetes and established cardiovascular disease.