**Brand Name:** Steglujan
**Generic:** ertugliflozin, sitagliptin
**Type:** small molecule
**Year Accepted/Phase:** 2017

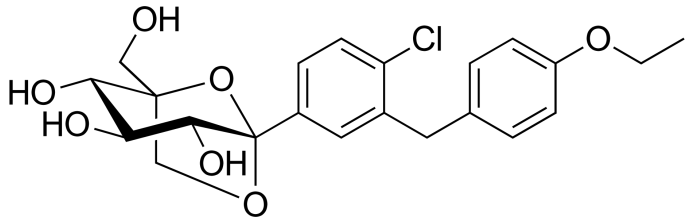
## Mechanism:

**Ertugliflozin**: Ertugliflozin is a sodium-glucose co-transporter 2 (SGLT2) inhibitor that reduces glucose reabsorption in the kidneys, leading to increased urinary glucose excretion and lower blood glucose levels.

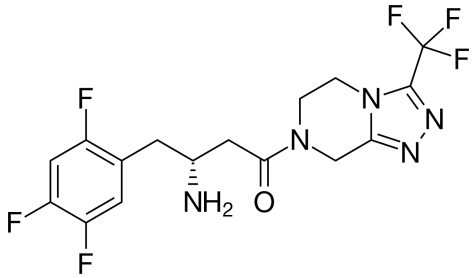
**Sitagliptin**: Sitagliptin is a dipeptidyl peptidase-4 (DPP-4) inhibitor that enhances the activity of incretin hormones, which increases insulin release and decreases glucagon levels in response to meals, thereby helping to regulate blood glucose levels.

## Chemical Structure:

**ertugliflozin**




**sitagliptin**




## Indication:

Steglujan is indicated as an adjunct to diet and exercise to improve glycemic control in adults with type 2 diabetes mellitus.

## Clinical trials:

### VERTIS FACTORIAL Trial (Phase III)

**Pubmed:** https://pubmed.ncbi.nlm.nih.gov/29266675/

**Purpose:** Evaluate the efficacy and safety of the combination of ertugliflozin and sitagliptin compared to each component alone and placebo in patients with type 2 diabetes mellitus inadequately controlled on metformin.
**Dates:** Conducted from 2014 to 2017.
**Results:** The trial demonstrated that the combination of ertugliflozin and sitagliptin provided significant improvements in HbA1c levels compared to each component alone and placebo. Significant reductions in fasting plasma glucose and body weight were also observed. The safety profile was consistent with the known profiles of each component, with no new safety signals identified.
**Impact:** These results supported the efficacy and safety of the combination therapy, leading to its approval for improving glycemic control in patients with type 2 diabetes mellitus.

### 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:** While the primary endpoint was focused on ertugliflozin alone, the trial also provided supportive data for the combination therapy. Ertugliflozin was shown to be non-inferior to placebo in terms of major adverse cardiovascular events (MACE) and showed benefits in reducing hospitalization for heart failure.
**Impact:** This trial provided important cardiovascular safety data, supporting the use of ertugliflozin-containing therapies in patients with type 2 diabetes and cardiovascular disease.