

TRI DIAB (EXTENDED-RELEASE FILM COATED TABLET)

Empagliflozin, Linagliptin, and metformin HCl

COMPOSITION:

Each film coated extended-release tablet contains:
5 mg empagliflozin (immediate release) + 2.5 mg Linagliptin (immediate release) + 1000 mg metformin hydrochloride (extended-release).
10 mg empagliflozin (immediate release) + 5 mg Linagliptin (immediate release) + 1000 mg metformin hydrochloride (extended-release).
12.5 mg empagliflozin (immediate release) + 2.5 mg Linagliptin (immediate release) + 1000 mg metformin hydrochloride (extended-release).
25 mg empagliflozin (immediate release) + 5 mg Linagliptin (immediate release) + 1000 mg metformin hydrochloride (extended-release).

EXCIPIENTS:

Core: Polyethylene oxide, Hypromellose, magnesium stearate.
Coating: Talc, Hydroxypropyl cellulose, Hypromellose, titanium dioxide, colorant (ferric oxides), Arginine, Polyethylene glycol 6000, carnauba wax, propylene glycol.

MECHANISM OF ACTION:

Empagliflozin, linagliptin, and metformin HCl:
The product contains: empagliflozin, a sodium-glucose co-transporter 2 (SGLT2) inhibitor, linagliptin, a dipeptidyl peptidase-4 (DPP-4) inhibitor, and metformin, a biguanide.

Empagliflozin Sodium-glucose co-transporter 2 (SGLT2) is the predominant transporter responsible for reabsorption of glucose from the glomerular filtrate back into the circulation. Empagliflozin is an inhibitor of SGLT2. By inhibiting SGLT2, empagliflozin reduces renal reabsorption of filtered glucose and lowers the renal threshold for glucose, and thereby increases urinary glucose excretion.

Linagliptin:

Linagliptin is an inhibitor of DPP-4, an enzyme that degrades the incretin hormones glucagon-like peptide-1 (GLP-1) and glucose-dependent insulin tropic polypeptide (GIP). Thus, linagliptin increases the concentrations of active incretin hormones, stimulating the release of insulin in a glucose-dependent manner and decreasing the levels of glucagon in the circulation.

Metformin HCl:

Metformin is an antihyperglycemic agent which improves glucose tolerance in patients with type 2 diabetes mellitus, lowering both basal and postprandial plasma glucose. Metformin decreases hepatic glucose production, decreases intestinal absorption of glucose, and improves insulin sensitivity by increasing peripheral glucose uptake and utilization.

PHARMACOKINETICS:

Administration of THIS PRODUCT with food resulted in no change in overall exposure of empagliflozin or linagliptin. For metformin extended-release, high-fat meals increased systemic exposure (as measured by area-under-the-curve [AUC]) by approximately 70% relative to fasting, while C max is not affected. Meals prolonged T max by approximately 3 hours.

Empagliflozin:

Absorption:
After oral administration, peak plasma concentrations of empagliflozin were reached at 1.5 hours post-dose.

Distribution:

The apparent steady-state volume of distribution was estimated to be 73.8 L. Plasma protein binding was 86.2%.

Elimination:

The apparent terminal elimination half-life of empagliflozin was estimated to be 12.4 h and apparent oral clearance was 10.6 L/h.

Metabolism:

No major metabolites of empagliflozin were detected in human plasma and the most abundant metabolites were three glucuronide conjugates.

Excretion:

Following administration of an oral [C]-empagliflozin solution to healthy subjects, approximately 95.6% of the drug-related radioactivity was eliminated in feces (41.2%) or urine (54.4%). The majority of drug related radioactivity recovered in feces was unchanged parent drug and approximately half of drug related radioactivity excreted in urine was unchanged parent drug.

Linagliptin:

Absorption:
The absolute bioavailability of linagliptin is approximately 30%. A high-fat meal reduced C max by 15% and increased AUC by 4%; this effect is not clinically relevant. Linagliptin may be administered with or without food.

Distribution:

The mean apparent volume of distribution at steady-state following a single intravenous dose of linagliptin 5 mg to healthy subjects is approximately 1110 L, indicating that linagliptin extensively distributes to the tissues. Plasma protein binding of linagliptin is concentration-dependent, decreasing from about 99% at 1 nmol/L to 75% to 89% at 30 nmol/L.

Elimination:

Linagliptin has a terminal half-life of about 200 hours at steady-state, though the accumulation half-life is about 11 hours. Renal clearance at steady-state was approximately 70 mL/min.

Metabolism:

Following oral administration, the majority (about 90%) of linagliptin is excreted unchanged, indicating that metabolism represents a minor elimination pathway.

Excretion:

Following administration of an oral [C]-linagliptin dose to healthy subjects, approximately 85% of the administered radioactivity was eliminated via the enterohepatic system (80%) or urine (5%) within 4 days of dosing.

Metformin HCl:

Absorption:
Following a single oral dose of 1000 mg (2 x 500 mg tablets) metformin HCl extended-release after a meal, the time to reach maximum plasma metformin concentration (T max) is achieved at approximately 7 to 8 hours.

Distribution:

The apparent volume of distribution (V/F) of metformin following single oral doses of immediate-release metformin HCl tablets 850 mg averaged 654-358 L. Metformin is negligibly bound to plasma proteins.

Metabolism:

Metformin does not undergo hepatic metabolism (no metabolites have been identified in humans) nor biliary excretion.

Excretion:

Following oral administration, approximately 90% of the absorbed drug is excreted via the renal route within the first 24 hours. Renal clearance is approximately 3.5 times greater than creatinine clearance, which indicates that tubular secretion is the major route of metformin elimination.

INDICATIONS:

Is a combination of empagliflozin, linagliptin, and metformin hydrochloride indicated as an adjunct to diet and exercise to improve glycemic control in adults with type 2 diabetes mellitus.

Empagliflozin is indicated to reduce the risk of cardiovascular death in adults with type 2 diabetes mellitus and established cardiovascular disease.

CONTRAINDICATIONS:

THIS PRODUCT is contraindicated in patients with:
Severe renal impairment (eGFR less than 30 mL/min/1.73 m²), end-stage renal disease, or dialysis, Acute or chronic metabolic acidosis, including diabetic ketoacidosis.

Hypersensitivity to empagliflozin, linagliptin, metformin or any of the excipients in THIS PRODUCT, reactions such as anaphylaxis, angioedema, exfoliative skin conditions, urticaria, or bronchial hyperreactivity have occurred

LIMITATIONS OF USE:

THIS PRODUCT is not recommended for patients with type 1 diabetes or for the treatment of diabetic ketoacidosis.

THIS PRODUCT has not been studied in patients with a history of pancreatitis. It is unknown whether patients with a history of pancreatitis are at an increased risk for the development of pancreatitis while using THIS PRODUCT.

DOSAGE AND ADMINISTRATION:

Prior To Initiation of TRIJARDY XR:
Assess renal function prior to initiation of THIS PRODUCT and periodically thereafter.

In patients with volume depletion, correct this condition prior to initiation of TRIJARDY XR.

Recommended Dosage:

Individualize the starting dose of THIS PRODUCT based on the patient's current regimen:

In patients on metformin HCl, with or without linagliptin, switch to THIS PRODUCT containing a similar total daily dose of metformin HCl and a total daily dose of empagliflozin 10 mg and linagliptin 5 mg;

In patients on metformin HCl and any regimen containing empagliflozin, with or without linagliptin, switch to THIS PRODUCT containing a similar total daily dose of metformin HCl, the same total daily dose of empagliflozin and linagliptin 5 mg.

Monitor effectiveness and tolerability, and adjust dosing as appropriate, not to exceed the maximum recommended daily dose of empagliflozin 25 mg, linagliptin 5 mg and metformin HCl 2000 mg.

Take THIS PRODUCT orally, once daily with a meal in the morning. Take THIS PRODUCT 10 mg/5 mg/1000 mg or THIS PRODUCT 25 mg/5 mg/1000 mg as a single tablet once daily.

Take THIS PRODUCT 5 mg/2.5 mg/1000 mg or THIS PRODUCT 12.5 mg/2.5 mg/1000 mg as two tablets together once daily.

Swallow THIS PRODUCT tablets whole. Do not split, crush, dissolve, or chew.

Dosage Recommendations in Patients with Renal Impairment.
No dose adjustment is needed in patients with an estimated glomerular filtration rate (eGFR) greater than or equal to 45 mL/min/1.73 m². THIS PRODUCT should not be initiated or continued in patients with an eGFR less than 45 mL/min/1.73 m².

THIS PRODUCT is contraindicated in patients with an eGFR less than 30 mL/min/1.73 m².

Discontinue THIS PRODUCT at the time of, or prior to, an iodinated contrast imaging procedure in patients with an eGFR less than 60 mL/min/1.73 m²; in patients with a history of liver disease, alcoholism or heart failure; or in patients who will be administered intra-arterial iodinated contrast. Re-evaluate eGFR 48 hours after the imaging procedure; restart THIS PRODUCT if renal function is stable.

SIDE EFFECTS:

- Lactic Acidosis.
- Pancreatitis.
- Heart Failure.
- Hypotension.
- Ketoacidosis.
- Acute Kidney Injury.
- Urosepsis and Pyelonephritis.
- Hypoglycemia with Concomitant Use with Insulin and Insulin Secretagogues.
- Necrotizing Fasciitis of the Perineum (Fournier's Gangrene).
- Genital Mycotic Infections.
- Hypersensitivity Reactions.
- Vitamin B12 Deficiency
- Severe and Disabling Arthralgia.
- Bullous Pemphigoid.

DRUG INTERACTIONS:

Carbonic Anhydrase Inhibitors: (e.g., zonisamide, acetazolamide or dichlorophenamide):

Concomitant use of these drugs with THIS PRODUCT may increase the risk of lactic acidosis. Consider more frequent monitoring of these patients.

Drugs that Reduce Metformin Clearance:

(e.g., organic cationic transporter- 2 [OCT2] / multidrug and toxin extrusion [MATE] inhibitors such as ranolazine, vandetanib, dolutegravir, and cimetidine) could increase systemic exposure to metformin and may increase the risk for lactic acidosis.

Alcohol:

Alcohol is known to potentiate the effect of metformin on lactate metabolism. Warn patients against excessive alcohol intake while receiving THIS PRODUCT.

Diuretics:

Coadministration of empagliflozin with diuretics resulted in increased urine volume and frequency of voids, which might enhance the potential for volume depletion.

Before initiating THIS PRODUCT, assess for volume contraction and

correct volume status if indicated. Monitor for signs and symptoms of hypotension after initiating therapy and increase monitoring in clinical situations where volume contraction is expected.

Insulin or Insulin Secretagogues:

Empagliflozin or linagliptin in combination with an insulin secretagogue (e.g., sulfonylurea) or insulin was associated with a higher rate of hypoglycemia compared with placebo in a clinical trial. Metformin may increase the risk of hypoglycemia when combined with insulin and/or an insulin secretagogue. Coadministration of THIS PRODUCT with an insulin secretagogue (e.g., sulfonylurea) or insulin may require lower doses of the insulin secretagogue or insulin to reduce the risk of hypoglycemia.

Drugs Affecting Glycemic Control:

These drugs include the thiazides and other diuretics, corticosteroids, phenothiazines, thyroid products, estrogens, oral contraceptives, phenytoin, nicotinic acid, sympathomimetics, calcium channel blocking drugs, and isoniazid.

When such drugs are administered to a patient receiving THIS PRODUCT, the patient should be closely observed to maintain adequate glycemic control. When such drugs are withdrawn from a patient receiving THIS PRODUCT, the patient should be observed closely for hypoglycemia.

Positive Urine Glucose Test:

SGLT2 inhibitors increase urinary glucose excretion and will lead to positive urine glucose tests. Use alternative methods to monitor glycemic control.

Interference with 1,5-anhydroglucitol (1,5-AG) Assay:

Measurements of 1,5-AG are unreliable in assessing glycemic control in patients taking SGLT2 inhibitors. Use alternative methods to monitor glycemic control.

Inducers of P-glycoprotein or CYP3A4 Enzymes:

Rifampin decreased linagliptin exposure, suggesting that the efficacy of linagliptin may be reduced when administered in combination with a strong P-gp or CYP3A4 inducer.

Use of alternative treatments is strongly recommended when linagliptin is to be administered with a strong P-gp or CYP3A4 inducer.

PRECAUTIONS:

Lactic Acidosis:

There have been post marketing cases of metformin-associated lactic acidosis, including fatal cases.

These cases had a subtle onset and were accompanied by nonspecific symptoms such as malaise, myalgias, abdominal pain, respiratory distress, or increased somnolence; however, hypothermia, hypotension, and resistant bradyarrhythmias have occurred with severe acidosis. Metformin-associated lactic acidosis was characterized by elevated blood lactate concentrations (>5 mmol/Liter).

If metformin-associated lactic acidosis is suspected, general supportive measures should be instituted promptly in a hospital setting, along with immediate discontinuation of THIS PRODUCT. In THIS PRODUCT treated patients with a diagnosis or strong suspicion of lactic acidosis, prompt hemodialysis is recommended to correct the acidosis and remove accumulated metformin.

Renal Impairment:

The risk of metformin accumulation and metformin-associated lactic acidosis increases with the severity of renal impairment because metformin is substantially excreted by the kidney.

Before initiating THIS PRODUCT, obtain an estimated glomerular filtration rate (eGFR).

THIS PRODUCT is contraindicated in patients with an eGFR below 30 mL/min/1.73 m².

Obtain an eGFR at least annually in all patients taking THIS PRODUCT. In patients at increased risk for the development of renal impairment (e.g., the elderly), renal function should be assessed more frequently.

Surgery and Other Procedures:

Withholding of food and fluids during surgical or other procedures may increase the risk for volume depletion, hypotension and renal impairment. THIS PRODUCT should be temporarily discontinued while patients have restricted food and fluid intake.

Hypoxic States:

Cases of metformin-associated lactic acidosis occurred in the setting of acute congestive heart failure (particularly when accompanied by hypoperfusion and hypoxemia).

Cardiovascular collapse (shock), acute myocardial infarction, sepsis, and other conditions associated with hypoxemia have been associated with lactic acidosis and may also cause prerenal azotemia. When such events occur, discontinue THIS PRODUCT.

Excessive Alcohol Intake:

Alcohol potentiates the effect of metformin on lactate metabolism and this may increase the risk of metformin-associated lactic acidosis. Warn patients against excessive alcohol intake while receiving THIS PRODUCT.

Hepatic Impairment:

Patients with hepatic impairment have developed cases of metformin-associated lactic acidosis. This may be due to impaired lactate clearance resulting in higher lactate blood levels. Therefore, avoid use of THIS PRODUCT in patients with clinical or laboratory evidence of hepatic disease.

Pancreatitis:

Acute pancreatitis, including fatal pancreatitis, has been reported in patients treated with linagliptin.

Take careful notice of potential signs and symptoms of pancreatitis. If pancreatitis is suspected, promptly discontinue THIS PRODUCT and initiate appropriate management. It is unknown whether patients with a history of pancreatitis are at increased risk for the development of pancreatitis while using THIS PRODUCT.

Heart Failure:

Consider the risks and benefits of THIS PRODUCT prior to initiating treatment in patients at risk for heart failure, such as those with a prior history of heart failure and a history of renal impairment, and observe these patients for signs and symptoms of heart failure during therapy.

Hypotension:

Empagliflozin causes intravascular volume contraction. Symptomatic hypotension may occur after initiating empagliflozin particularly in patients with renal impairment, the elderly, in patients with low systolic



blood pressure, and in patients on diuretics. Before initiating THIS PRODUCT, assess for volume contraction and correct volume status if indicated.

Ketoacidosis:

Reports of ketoacidosis, a serious life-threatening condition requiring urgent hospitalization have been identified in post marketing surveillance in patients with type 1 and type 2 diabetes mellitus receiving sodium glucose co-transporter-2 (SGLT2) inhibitors, including empagliflozin. Fatal cases of ketoacidosis have been reported in patients taking empagliflozin. THIS PRODUCT is not indicated for the treatment of patients with type 1 diabetes mellitus.

Acute Kidney Injury:

Empagliflozin causes intravascular volume contraction and can cause renal impairment.

Before initiating THIS PRODUCT, consider factors that may predispose patients to acute kidney injury including hypovolemia, chronic renal impairment, heart failure and concomitant medications (diuretics, ACE inhibitors, ARBs, NSAIDs).

Empagliflozin increases serum creatinine and decreases eGFR.

Urosepsis And Pyelonephritis:

There have been post marketing reports of serious urinary tract infections including urosepsis and pyelonephritis requiring hospitalization in patients receiving SGLT2 inhibitors, including empagliflozin.

Treatment with SGLT2 inhibitors increases the risk for urinary tract infections. Evaluate patients for signs and symptoms of urinary tract infections and treat promptly, if indicated.

Hypoglycemia with Concomitant Use With Insulin And Insulin Secretagogues:

Insulin and insulin secretagogues are known to cause hypoglycemia. The use of empagliflozin or linagliptin in combination with an insulin secretagogue (e.g., sulfonylurea) or insulin was associated with a higher rate of hypoglycemia compared with placebo in a clinical trial.

Genital Mycotic Infections:

Empagliflozin increases the risk for genital mycotic infections. Patients with a history of chronic or recurrent genital mycotic infections were more likely to develop genital mycotic infections. Monitor and treat as appropriate.

Hypersensitivity Reactions:

There have been post marketing reports of serious hypersensitivity reactions in patients treated with linagliptin (one of the components of the combination). These reactions include anaphylaxis, angioedema, and exfoliative skin conditions.

Severe and Disabling Arthralgia:

There have been post marketing reports of severe and disabling arthralgia in patients taking DPP-4 inhibitors.

Bullous Pemphigoid:

Post marketing cases of bullous pemphigoid requiring hospitalization have been reported with DPP-4 inhibitor use.

Lactation:

Advise women that breastfeeding is not recommended during treatment with THIS PRODUCT.

Females and Males of Reproductive Potential:

Inform females that treatment with metformin may result in ovulation in some premenopausal anovulatory women which may lead to unintended pregnancy.

PREGNANCY:

Based on animal data showing adverse renal effects from empagliflozin, THIS PRODUCT is not recommended during the second and third trimesters of pregnancy.

LACTATION:

Because of the potential for serious adverse reactions in a breastfed infant, including the potential for empagliflozin to affect postnatal renal development, advise patients that use of THIS PRODUCT is not recommended while breastfeeding.

PEDIATRIC USE:

Safety and effectiveness of THIS PRODUCT in pediatric patients under 18 years of age have not been established.

OVERDOSE:

In the event of an overdose with THIS PRODUCT, contact the Poison Control Center.

Overdose of metformin HCl has occurred, including ingestion of amounts greater than 50 grams. Lactic acidosis has been reported in approximately 32% of metformin overdose cases. Metformin is dialyzable with a clearance of up to 170 mL/min under good hemodynamic conditions. Therefore, hemodialysis may be useful for removal of accumulated drug from patients in whom metformin overdose is suspected.

Removal of empagliflozin by hemodialysis has not been studied, and removal of linagliptin by hemodialysis or peritoneal dialysis is unlikely.

STORAGE CONDITIONS:

Store at 15-30°C, away from moisture.

PACKAGING:

3 blisters, each blister contains 10 Extended-release film coated tablet Carton Box.

| 2302750 | THIS IS A MEDICAMENT |
|---|----------------------|
| — A medicament is a product but unlike any other products. — A medicament is a product which affects your health, and its consumption contrary to instructions is dangerous for you. — Follow strictly the doctor's prescription, the method of use and the instructions of the pharmacist who sold the medicament. The doctor and the pharmacist are experts in medicine, its benefits and risks. — Do not by yourself interrupt the period of treatment prescribed for you. — Do not repeat the same prescription without consulting your doctor. | |
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