



1. NAME OF THE MEDICINAL PRODUCT

Dapagliflozin and Metformin Hydrochloride Extended Release tablets  
DAPZIN 5 M

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Each film coated tablet contains:

Dapagliflozin ..... 5 mg

Metformin Hydrochloride USP ..... 500 mg

Excipient with known effect: Each film-coated tablet contains 25.285 mg of lactose anhydrous. For the full list of excipients, see section 6.1.

3. PHARMACEUTICAL FORM

Film coated tablets

Orange colored oval shaped, beveled edge, biconvex, film coated tablets debossed with "DM 1" on one face and plain on other face with an approximate dimension of 16.65 mm in length, 8.15 mm in width & 7.20 mm in thickness.

4. CLINICAL PARTICULARS

4.1 Therapeutic indications:

Dapagliflozin and Metformin HCl Extended Release tablets is indicated as an adjunct to diet and exercise to improve glycemic control in adults with type 2 diabetes mellitus.

Dapagliflozin is indicated to reduce the risk of hospitalization for heart failure in adults with type 2 diabetes mellitus and established cardiovascular disease (CVD) or multiple cardiovascular (CV) risk factors.

Limitations of Use

Dapagliflozin and Metformin HCl Extended Release tablets is not recommended for patients with type 1 diabetes mellitus or diabetic ketoacidosis.

4.2 Posology and method of administration

Prior to initiation of Dapagliflozin and Metformin HCl Extended Release tablets

Assess renal function before initiating Dapagliflozin and Metformin HCl Extended Release therapy and periodically thereafter.



- Inpatients with volume depletion, correct this condition prior to initiation of Dapagliflozin and Metformin HCl Extended Release tablets.

#### Recommended Dosage

- Take Dapagliflozin and Metformin HCl Extended Release tablets once daily in the morning with food.
- Swallow Dapagliflozin and Metformin HCl Extended Release tablets whole and never crush, cut, or chew. Occasionally, the inactive ingredients of Dapagliflozin and Metformin HCl Extended Release tablets will be eliminated in the feces as a soft, hydrated mass that may resemble the original tablet.
- Individualize the starting dose of Dapagliflozin and Metformin HCl Extended Release tablets based upon the patient's current regimen.
- To improve glycaemic control for patients not already taking dapagliflozin, the recommended starting dose for dapagliflozin is 5 mg once daily.
- To reduce the risk of hospitalization for heart failure, the recommended dose for dapagliflozin is 10 mg once daily.
- For patients requiring a dose of 5 mg dapagliflozin and 2000 mg metformin HCl Extended Release, use two of the 2.5 mg dapagliflozin/1000 mg metformin HCl Extended Release tablets.
- Dosing may be adjusted based on effectiveness and tolerability while not exceeding the maximum recommended daily dose of 10 mg dapagliflozin and 2000 mg metformin HCl.
- Patients taking an evening dose of metformin XR should skip their last dose before starting Dapagliflozin and Metformin HCl Extended Release tablets.

#### Patients with Renal Impairment

Dapagliflozin and Metformin Extended Release tablets is contraindicated in patients with an estimated glomerular filtration rate (eGFR) below 60 mL/min/1.73 m<sup>2</sup>

No dose adjustment for Dapagliflozin and Metformin HCl Extended-release is needed in patients with an eGFR greater than or equal to 45 mL/min/1.73 m<sup>2</sup>.

Dapagliflozin and Metformin HCl Extended-release is not recommended in patients with an eGFR below 45 mL/min/1.73 m<sup>2</sup>.

#### Discontinuation for Iodinated Contrast Imaging Procedures

Discontinue Dapagliflozin and Metformin Extended Release tablets at the time of, or prior to, an iodinated contrast imaging procedure 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 Dapagliflozin and Metformin Extended Release tablets if renal function is stable.

#### 4.3 Contraindications:

Dapagliflozin and Metformin Extended Release tablets are contraindicated in patients with:

- Moderate to severe renal impairment (eGFR below 60 mL/min/1.73 m<sup>2</sup>), end stage renal disease or patients on dialysis
- History of a serious hypersensitivity reaction to Dapagliflozin or hypersensitivity to Metformin hydrochloride
- Acute or chronic metabolic acidosis, including diabetic ketoacidosis, with or without coma
- Diabetic ketoacidosis should be treated with insulin.

#### 4.4 Special warning and precautions for use

##### 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 bradyarrhythmia have occurred with severe acidosis.

Metformin-associated lactic acidosis was characterized by elevated blood lactate concentrations (>5 mmol/Liter), anion gap acidosis (without evidence of ketonuria or ketonemia), and an increased lactate: pyruvate ratio; metformin plasma levels generally >5 mcg/mL. Metformin decreases liver uptake of

lactate increasing lactate blood levels which may increase the risk of lactic acidosis, especially in patients at risk.

If metformin-associated lactic acidosis is suspected, general supportive measures should be instituted promptly in a hospital setting, along with immediate discontinuation of Dapagliflozin and Metformin Extended Release tablets.

In Dapagliflozin and Metformin Extended Release tablets-treated patients with a diagnosis or strong suspicion of lactic acidosis, prompt hemodialysis is recommended to correct the acidosis and remove accumulated metformin (metformin hydrochloride is dialyzable, with a clearance of up to 170 mL/minute under good hemodynamic conditions). Hemodialysis has often resulted in reversal of symptoms and recovery.

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# DAPAGLIFLOZIN AND METFORMIN HYDROCHLORIDE EXTENDED RELEASE TABLETS 5/500mg

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Educate patients and their families about the symptoms of lactic acidosis and if these symptoms occur

instruct them to discontinue Dapagliflozin and Metformin Extended Release tablets and report these symptoms to their healthcare provider.

For each of the known and possible risk factors for Metformin-associated lactic acidosis, recommendations to reduce the risk of and manage Metformin-associated lactic acidosis are provided below:

**Renal Impairment:** The post marketing metformin-associated lactic acidosis cases primarily occurred in patients with significant 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. Clinical recommendations based upon the patient's renal function include.

- Before initiating Dapagliflozin and Metformin Extended Release tablets, obtain an estimated glomerular filtration rate (eGFR).
- Dapagliflozin and Metformin Extended Release tablets is contraindicated in patients with an eGFR less than 60 mL/minute/1.73 m<sup>2</sup>
- Obtain an eGFR at least annually in all patients taking Dapagliflozin and Metformin Extended Release tablets. In patients at increased risk for the development of renal impairment (e.g., the elderly), renal function should be assessed more frequently.

### Hypotension

Dapagliflozin causes intravascular volume contraction. Symptomatic hypotension can occur after initiating dapagliflozin, particularly in patients with impaired renal function (eGFR less than 60 mL/min/1.73 m<sup>2</sup>), elderly patients, or patients on loop diuretics.

Before initiating Dapagliflozin and Metformin Extended Release tablets in patients with one or more of

these characteristics, volume status should be assessed and corrected. Monitor for signs and symptoms of hypotension after initiating therapy.

### 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 taking sodium-glucose co-transporter 2 (SGLT2) inhibitors, including dapagliflozin. Fatal cases of ketoacidosis

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have been reported in patients taking dapagliflozin. Dapagliflozin and Metformin Extended Release tablets are not indicated for the treatment of patients with type 1 diabetes mellitus.

Patients treated with Dapagliflozin and Metformin Extended Release tablets who present with signs and symptoms consistent with severe metabolic acidosis should be assessed for ketoacidosis regardless of blood glucose levels as ketoacidosis associated with Dapagliflozin and Metformin Extended Release tablets may be present even if blood glucose levels are less than 250 mg/dL. If ketoacidosis is suspected, Dapagliflozin and Metformin Extended Release tablets should be discontinued, the patient should be evaluated and prompt treatment should be instituted. Treatment of ketoacidosis may require insulin, fluid and carbohydrate replacement.

In many of the post marketing reports, and particularly in patients with type 1 diabetes, the presence of ketoacidosis was not immediately recognized, and the institution of treatment was delayed because the presenting blood glucose levels were below those typically expected for diabetic ketoacidosis (often less than 250 mg/dL). Signs and symptoms at presentation were consistent with dehydration and severe metabolic acidosis and included nausea, vomiting, abdominal pain, generalized malaise, and shortness of breath. In some but not all cases, factors predisposing to ketoacidosis, such as insulin dose reduction, acute illness, reduced caloric intake, surgery, pancreatic disorders suggesting insulin deficiency (e.g., type 1 diabetes, history of pancreatitis or pancreatic surgery), and alcohol abuse were identified. Before initiating Dapagliflozin and Metformin Extended Release tablets, consider factors in the patient history that may predispose to ketoacidosis, including pancreatic insulin deficiency from any cause, caloric restriction and alcohol abuse.

For patients who undergo scheduled surgery, consider temporarily discontinuing Dapagliflozin and Metformin Extended Release tablets for at least 3 days prior to surgery.

Consider monitoring for ketoacidosis and temporarily discontinuing Dapagliflozin and Metformin Extended

Release tablets in other clinical situations known to predispose to ketoacidosis (e.g., prolonged fasting due to acute illness or post-surgery). Ensure risk factors for ketoacidosis are resolved prior to restarting Dapagliflozin and Metformin Extended Release tablets.

Educate patients on the signs and symptoms of ketoacidosis and instruct patients to discontinue Dapagliflozin and Metformin Extended Release tablets and seek medical attention immediately if signs and symptoms occur.

Acute Kidney Injury and Impairment in Renal Function



Dapagliflozin causes intravascular volume contraction, and can cause renal impairment. There have been postmarketing reports of acute kidney injury, some requiring hospitalization and dialysis, in patients receiving dapagliflozin: some reports involved patients younger than 65 years of age.

Before initiating Dapagliflozin and Metformin Extended Release tablets, consider factors that may predispose patients to acute kidney injury including hypovolemia, chronic renal insufficiency, congestive heart failure, and concomitant medications (diuretics, ACE inhibitors, ARBs, NSAIDs). Consider temporarily discontinuing Dapagliflozin and Metformin Extended Release tablets in any setting of reduced oral intake (such as acute illness or fasting) or fluid losses (gastrointestinal illness or excessive heat exposure); monitor patients for signs and symptoms of acute kidney injury. If acute kidney injury occurs, discontinue Dapagliflozin and Metformin Extended Release tablets promptly and institute treatment.

Renal function should be evaluated prior to initiation of Dapagliflozin and Metformin HCl Extended Release tablets and monitored periodically thereafter. Use of Dapagliflozin and Metformin HCl Extended Release tablets is not recommended when the eGFR is less than 45 mL/min/1.73 m<sup>2</sup>. Dapagliflozin and Metformin HCl Extended Release tablets is contraindicated in patients with an eGFR below 30 mL/min/1.73 m<sup>2</sup>.

#### 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 dapagliflozin. 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 (e.g., sulfonylurea) are known to cause hypoglycemia. Dapagliflozin and Metformin HCl Extended-release may increase the risk of hypoglycemia when combined with insulin and/or an insulin secretagogue. Therefore, a lower dose of insulin or insulin secretagogue may be required to minimize the risk of hypoglycemia when used in combination with Dapagliflozin and Metformin HCl Extended Release tablets.

#### Necrotizing Fasciitis of the Perineum (Fournier's Gangrene)

Reports of necrotizing fasciitis of the perineum (Fournier's Gangrene), a rare but serious and life-threatening necrotizing infection requiring urgent surgical intervention, have been identified in



postmarketing surveillance in patients with diabetes mellitus receiving SGLT2 inhibitors, including Dapagliflozin. Cases have been reported in both females and males. Serious outcomes have included hospitalization, multiple surgeries, and death.

Patient treated with Dapagliflozin and Metformin HCl Extended Release tablets presenting with pain or tenderness, erythema, or swelling in the genital or perineal area, along with fever or malaise, should be assessed for necrotizing fasciitis. If suspected, start treatment immediately with broad-spectrum antibiotics and, if necessary, surgical debridement. Discontinue Dapagliflozin and Metformin HCl Extended Release tablets, closely monitor blood glucose levels, and provide appropriate alternative therapy for glycemic control.

#### Vitamin B 12 Concentrations

In controlled clinical trials of metformin of 29-week duration, a decrease to subnormal levels of previously normal serum vitamin B12 levels, without clinical manifestations, was observed in approximately 7% of patients. This decrease, possibly due to interference with B12 absorption from the B12-intrinsic factor complex, however, very rarely associated with anemia and appears to be rapidly reversible with discontinuation of metformin or vitamin B12 supplementation. Certain individuals (those with inadequate vitamin B12 or calcium intake or absorption) appear to be predisposed to developing subnormal vitamin B12 levels. Measure hematologic parameters on an annual basis and vitamin B12 at 2- to 3-year intervals in patients on Dapagliflozin and Metformin HCl Extended Release tablets and manage any abnormalities

#### Genital Mycotic Infections

Dapagliflozin increases the risk of genital mycotic infections. Patients with a history of genital mycotic infections were more likely to develop genital mycotic infections. Monitor and treat appropriately.

This medicinal product contains lactose. Patients with rare hereditary problems of galactose intolerance, the Lapp-lactase deficiency or glucose-galactose malabsorption should not take this medicinal product.

#### 4.5 Interaction with other medicinal products and other forms of interactions:

##### Positive Urine Glucose Test

Dapagliflozin



Monitoring glycemic control with urine glucose tests is not recommended in patients taking SGLT2 inhibitors as 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

##### Dapagliflozin

Monitoring glycemic control with 1, 5-AG assay is not recommended as measurements of 1, 5-AG are unreliable in assessing glycemic control in patients taking SGLT2 inhibitors. Use alternative methods to monitor glycemic control.

#### Carbonic Anhydrase Inhibitors

Topiramate or other carbonic anhydrase inhibitors (e.g., zonisamide, acetazolamide or dichlorphenamide) frequently causes a decrease in serum bicarbonate and induce non-anion gap, hyperchloremic metabolic acidosis. Concomitant use of these drugs with Dapagliflozin and Metformin Extended Release tablets may increase the risk for lactic acidosis. Consider more frequent monitoring of these patients.

#### Drugs that Reduce Metformin Clearance

Concomitant use of drugs that interfere with common renal tubular transport systems involved in the renal elimination of metformin (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. Consider the benefits and risks of concomitant use.

#### Alcohol

Alcohol is known to potentiate the effect of metformin on lactate metabolism. Warn patients against excessive alcohol intake while receiving Dapagliflozin and Metformin Extended Release tablets.

#### Drugs Affecting Glycaemic Control

##### Metformin HC

Certain drugs tend to produce hyperglycaemia and may lead to loss of glycaemic control. These medications include thiazides and other diuretics, corticosteroids, phenothiazines, thyroid products, estrogens, oral contraceptives, phenytoin, nicotinic acid, sympathomimetics, calcium channel blocking

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drugs, and isoniazid. When such drugs are administered to a patient receiving Dapagliflozin and Metformin HCl Extended Release tablets, observe the patient closely for loss of blood glucose control.

When such drugs are withdrawn from a patient receiving Dapagliflozin and Metformin HCl Extended Release tablets, observe the patient closely for hypoglycemia.

#### 4.6 Fertility, pregnancy and lactation

##### Pregnancy

Based on animal data showing adverse renal effects, Dapagliflozin and Metformin HCl Extended Release tablets is not recommended during the second and third trimesters of pregnancy.

Limited data with Dapagliflozin and Metformin HCl Extended Release tablets or dapagliflozin in pregnant

women are not sufficient to determine drug-associated risk for major birth defects or miscarriage.

Published studies with metformin use during pregnancy have not reported a clear association with

metformin and major birth defect or miscarriage risk. There are risks to the mother and fetus associated

with poorly controlled diabetes in pregnancy

##### Clinical Considerations

Disease-associated maternal and/or embryofetal risk

Poorly controlled diabetes in pregnancy increases the maternal risk for diabetic ketoacidosis, preeclampsia, spontaneous abortions, preterm delivery and delivery complications. Poorly controlled diabetes increases the fetal risk for major birth defects, stillbirth, and macrosomia related morbidity.

##### Data

##### Human Data

Published data from post-marketing studies have not reported a clear association with metformin and

major birth defects, miscarriage, or adverse maternal or fetal outcomes when metformin was used during pregnancy. However, these studies cannot definitely establish the absence of any metformin-associated risk because of methodological limitations, including small sample size and inconsistent comparator groups.

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#### Lactation

##### Risk Summary



There is no information regarding the presence of Dapagliflozin and Metformin HCl Extended Release tablets or dapagliflozin in human milk, the effects on the breastfed infant, or the effects on milk production.

Limited published studies report that metformin is present in human milk. However, there is insufficient information on the effects of metformin on the breastfed infant and no available information on the effects of metformin on milk production. Dapagliflozin is present in the milk of lactating rats. However, due to species specific differences in lactation physiology, the clinical relevance of these data are not clear. Since human kidney maturation occurs in utero and during the first 2 years of life when lactational exposure may occur, there may be risk to the developing human kidney.

Because of the potential for serious adverse reactions in breastfed infants, advise women that use of Dapagliflozin and Metformin HCl Extended Release tablets is not recommended while breastfeeding.  
Data

#### Dapagliflozin

Dapagliflozin was present in rat milk at a milk/plasma ratio of 0.49, indicating that Dapagliflozin and its metabolites are transferred into milk at a concentration that is approximately 50% of that in maternal plasma. Juvenile rats directly exposed to dapagliflozin showed risk to the developing kidney (renal pelvis and tubular dilatations) during maturation.

#### Metformin HCl

Published clinical lactation studies report that metformin is present in human milk which resulted in infant doses approximately 0.11% to 1% of the maternal weight-adjusted dosage and a milk/plasma ratio ranging between 0.13 and 1. However, the studies were not designed to definitely establish the risk of use of Metformin during lactation because of small sample size and limited adverse event data collected in infants.

#### Females and Males of Reproductive Potential

Discuss the potential for unintended pregnancy with premenopausal women as therapy with metformin may result in ovulation in some anovulatory women.

#### Paediatric Use

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Safety and effectiveness of Dapagliflozin and Metformin HCl Extended Release tablets in paediatric patients under 18 years of age have not been established.

#### Geriatric Use

Dapagliflozin and Metformin HCl Extended Release tablets

No Dapagliflozin and Metformin HCl Extended Release tablets dosage change is recommended based on age. More frequent assessment of renal function is recommended in elderly patients.

#### Dapagliflozin

A total of 1424 (24%) of the 5936 dapagliflozin-treated patients were 65 years and older and 207 (3.5%) patients were 75 years and older in a pool of 21 double-blind, controlled, clinical studies assessing the efficacy of dapagliflozin in improving glycemic control. After controlling for level of renal function (eGFR), efficacy was similar for patients under age 65 years and those 65 years and older. In patients  $\geq 65$  years of age, a higher proportion of patients treated with Dapagliflozin had adverse reactions of hypotension.

#### Metformin HCl

Controlled clinical studies of metformin did not include sufficient numbers of elderly patients to determine whether they respond differently than younger patients. In general, dose selection for an elderly patient should be cautious, usually starting at the low end of the dosing range, reflecting the greater frequency of decreased hepatic, renal, or cardiac function, and of concomitant disease or other drug therapy and the higher risk of lactic acidosis. Assess renal function more frequently in elderly patients.

#### Renal Impairment

##### Dapagliflozin

Use of Dapagliflozin is not recommended when eGFR is less than 45 mL/min/1.73 m<sup>2</sup> and is contraindicated in patients with severe renal impairment (eGFR less than 30 mL/min/1.73 m<sup>2</sup>) or ESRD. Dapagliflozin was evaluated in two glycemic control studies that included patients with moderate renal impairment (an eGFR of 45 to less than 60 mL/min/1.73 m<sup>2</sup>, and an eGFR of 30 to less than 60

mL/min/1.73 m<sup>2</sup>). The safety profile of dapagliflozin in the study of patients with an eGFR of 45 to less than 60 mL/min/1.73 m<sup>2</sup> was similar to the general population of patients with type 2 diabetes. Although patients in the dapagliflozin arm had a reduction in eGFR compared to the placebo arm, eGFR generally returned towards baseline after treatment discontinuation. Patients with renal impairment using

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dapagliflozin for glycemic control may also be more likely to experience hypotension and may be at high risk for acute kidney injury. In the study of patients with an eGFR 30 to less than 60 mL/min/1.73 m<sup>2</sup>, 13 patients receiving dapagliflozin experienced bone fractures compared to none receiving placebo.

#### Metformin HCl

Metformin is substantially excreted by the kidney, and the risk of metformin accumulation and lactic acidosis increases with the degree of renal impairment. Dapagliflozin and Metformin HCl Extended Release tablets is contraindicated in severe renal impairment, patients with an estimated glomerular filtration rate (eGFR) below 30 mL/min/1.73 m<sup>2</sup>.

#### Hepatic Impairment

Use of metformin in patients with hepatic impairment has been associated with some cases of lactic acidosis. Dapagliflozin and Metformin HCl Extended Release tablets is not recommended in patients with hepatic impairment.

#### 4.7 Effects on ability to drive and use machines

Dapagliflozin or Metformin have no or negligible influence on the ability to drive and use machines. Patients should be alerted to the risk of hypoglycaemia when this medicinal product is used in combination with other glucose-lowering medicinal products known to cause hypoglycaemia.

#### 4.8 Undesirable effects

The following important adverse reactions are described below and elsewhere in the labeling:

Lactic Acidosis

Hypotension

Ketoacidosis

Acute Kidney Injury and Impairment in Renal Function

Urosepsis and Pyelonephritis

Use with Medications Known to Cause Hypoglycemia

Vitamin B<sub>12</sub> Concentrations

Genital Mycotic Infections

Clinical Trials Experience

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in clinical practice.

#### Dapagliflozin and Metformin hydrochloride

Data from a prespecified pool of patients from 8 short-term, placebo-controlled studies of Dapagliflozin coadministered with metformin immediate- or Extended Release was used to evaluate safety. This pool included several add-on studies (metformin alone and in combination with a dipeptidyl peptidase-4 [DPP4] inhibitor and metformin, or insulin and metformin, 2 initial combination with metformin studies, and 2 studies of patients with cardiovascular disease [CVD] and type 2 diabetes who received their usual treatment [with metformin as background therapy]). For studies that included background therapy with and without metformin, only patients who received metformin were included in the 8-study placebo-controlled pool. Across these 8 studies 983 patients were treated once daily with Dapagliflozin 10 mg and Metformin and 1185 were treated with placebo and metformin. These 8 studies provide a mean duration of exposure of 23 weeks. The mean age of the population was 57 years and 2% were older than 75 years. Fifty-four percent (54%) of the population was male; 88% White, 6% Asian, and 3% Black or African American. At baseline, the population had diabetes for an average of 8 years, mean hemoglobin A1c (HbA1c) was 8.4%, and renal function was normal or mildly impaired in 90% of patients and moderately impaired in 10% of patients.

The overall incidence of adverse events for the 8-study, short-term, placebo-controlled pool in patients treated with dapagliflozin 10 mg and metformin was 60.3% compared to 58.2% for the placebo and metformin group. Discontinuation of therapy due to adverse events in patients who received dapagliflozin 10 mg and metformin was 4% compared to 3.3% for the placebo and metformin group. The most commonly reported events leading to discontinuation and reported in at least 3 patients treated with dapagliflozin 10 mg and metformin were renal impairment (0.7%), increased blood creatinine (0.2%), decreased renal creatinine clearance (0.2%), and urinary tract infection (0.2%).

Table 1 shows common adverse reactions associated with the use of dapagliflozin and metformin. These adverse reactions were not present at baseline, occurred more commonly on dapagliflozin and metformin than on placebo, and occurred in at least 2% of patients treated with either dapagliflozin 5 mg or dapagliflozin 10 mg.

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Table 1: Adverse Reactions in Placebo-Controlled Studies Reported in ≥2% of Patients Treated with Dapagliflozin and Metformin

Adverse Reaction	% of Patients		
	Pool of 8 Placebo-Controlled Studies		
	Placebo and Metformin N=118	Dapagliflozin 5 mg and Metformin N=41	Dapagliflozin 10 mg and Metformin N=983
Female genital mycotic infections*	5.1	0.0	0.3
Nasopharyngitis	5.9	6.3	5.2
Urinary tract infections†	3.6	6.1	5.5
Diarrhea	5.6	5.9	4.2
Headache	28	5.4	3.3

Female genital mycotic infections‡	0	4.3	3.6
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Influenza	2.4	4.1	2.6
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Adverse Reaction	% of Patients		
	Pool of 8 Placebo-Controlled Studies		
	Placebo and Metformin N=1185	Dapagliflozin 5 mg and Metformin N=410	Dapagliflozin 10 mg and Metformin N=983
Nausea	2.0	3.9	2.6
Back pain	3.2	3.4	2.5
Dizziness	2.2	3.2	1.8
Cough	1.9	3.2	1.4
Constipation	1.6	2.9	1.9
Dyslipidemia	1.4	2.7	1.5
Pharyngitis	1.1	2.7	1.5
Increased urination§	1.4	2.4	2.6
Discomfort with urination	1.1	2.2	1.6

§\*Genital mycotic infections include the following adverse reactions, listed in order of frequency reported for females: vulvovaginal mycotic infection, vaginal infection, genital infection, vulvovaginitis, fungal genital infection, vulvovaginal candidiasis, vulval abscess, genital candidiasis, and vaginitis bacterial. (N





for females: Placebo and metformin=534, dapagliflozin 5 mg and metformin=223, dapagliflozin 10 mg and metformin=430).

‡Urinary tract infections include the following adverse reactions, listed in order of frequency reported: urinary tract infection, cystitis, pyelonephritis, urethritis, and prostatitis.

‡Genital mycotic infections include the following adverse reactions, listed in order of frequency reported for males: balanitis, fungal genital infection, balanitis candida, genital candidiasis, genital infection, posthitis, and balanoposthitis. (N for males: Placebo and metformin=651, dapagliflozin 5 mg and metformin=187, dapagliflozin 10 mg and metformin=553).

§Increased urination includes the following adverse reactions, listed in order of frequency reported: pollakiuria, polyuria, and urine output increased.

#### Metformin HCl

In placebo-controlled monotherapy trials of metformin extended-release, diarrhea and nausea/vomiting were reported in >5% of metformin-treated patients and more commonly than in placebo-treated patients (9.6% versus 2.6% for diarrhea and 6.5% versus 1.5% for nausea/vomiting). Diarrhea led to discontinuation of study medication in 0.6% of the patients treated with metformin extended-release.

#### Pool of 12 Placebo-Controlled Studies for Dapagliflozin 5 and 10 mg for Glycemic Control Dapagliflozin

The data in Table 2 are derived from 12 placebo-controlled studies ranging from 12 to 24 weeks. In 4 studies dapagliflozin was used as monotherapy, and in 8 studies dapagliflozin was used as add-on to background antidiabetic therapy or as combination therapy with metformin [see CLINICAL STUDIES (14.1)].

These data reflect exposure of 2338 patients to dapagliflozin with a mean exposure duration of 21 weeks. Patients received placebo (N=1393), dapagliflozin 5 mg (N=1145), or dapagliflozin 10 mg (N=1193) once daily. The mean age of the population was 55 years and 2% were older than 75 years of age. Fifty percent (50%) of the population were male; 81% were White, 14% were Asian, and 3% were Black or



African American. At baseline, the population had diabetes for an average of 6 years, had a mean HbA1c of 8.3%, and 21% had established microvascular complications of diabetes. Baseline renal function was normal or mildly impaired in 92% of patients and moderately impaired in 8% of patients (mean eGFR 86 mL/min/1.73m<sup>2</sup>).

Table 2 shows common adverse reactions associated with the use of dapagliflozin. These adverse reactions were not present at baseline, occurred more commonly on dapagliflozin than on placebo, and occurred in at least 2% of patients treated with either dapagliflozin 5 mg or dapagliflozin 10 mg.

Table 2: Adverse Reactions in Placebo-Controlled Studies Reported in ≥2% of Patients Treated with Dapagliflozin

Adverse Reaction	% of Patients		
	Pool of 12 Placebo-Controlled Studies		
	Placebo N=139	Dapagliflozin 5 mg N=114	Dapagliflozin 10 mg N=1193
Female genital mycotic infections*	3	5	6.9
Nasopharyngitis	1.5	8.4	6.3
Urinary tract infections†	6.2	6.6	4.3
Back pain	3.7	5.7	4.2
Increased urination‡	3.2	3.1	38
	1.7	2.9	



Adverse Reaction	% of Patients		
	Pool of 12 Placebo-Controlled Studies		
	Placebo N=1393	Dapagliflozin 5 mg N=1145	Dapagliflozin 10 mg N=1193
Male genital mycotic infections <sup>§</sup>	0.3	2.8	2.7
Nausea	2.4	2.8	2.5
Influenza	2.3	2.7	2.3
Dyslipidemia	1.5	2.1	2.5
Constipation	1.5	2.2	1.9
Discomfort with urination	0.7	1.6	2.1
Pain in extremity <sup>†</sup>	1.4	2.0	1.7

<sup>§</sup>Genital mycotic infections include the following adverse reactions, listed in order of frequency reported for females: vulvovaginal mycotic infection, vaginal infection, vulvovaginal candidiasis, vulvovaginitis, genital infection, genital candidiasis, fungal genital infection, vulvitis, genitourinary tract infection, vulval abscess, and vaginitis bacterial. (N for females: Placebo=677, dapagliflozin 5 mg=581, dapagliflozin 10 mg=598).

<sup>†</sup>Urinary tract infections include the following adverse reactions, listed in order of frequency reported: urinary tract infection, cystitis, Escherichia urinary tract infection, genitourinary tract infection, pyelonephritis, trigonitis, urethritis, kidney infection, and prostatitis.



⊕ Increased urination includes the following adverse reactions, listed in order of frequency reported: pollakiuria, polyuria, and urine output increased.

§ Genital mycotic infections include the following adverse reactions, listed in order of frequency reported for males: balanitis, fungal genital infection, balanitis candida, genital candidiasis, genital infection male, penile infection, balanoposthitis, balanoposthitis infective, genital infection, and posthitis. (N for males: Placebo=716, dapagliflozin 5 mg=564, dapagliflozin 10 mg=595).

**Pool of 13 Placebo-Controlled Studies for Dapagliflozin 10 mg for Glycemic Control**

Dapagliflozin 10 mg was also evaluated in a larger placebo-controlled study pool. This pool combined 13 placebo-controlled studies, including 3 monotherapy studies, 9 add-on to background antidiabetic therapy studies, and an initial combination with metformin study. Across these 13 studies, 2360 patients were treated once daily with dapagliflozin 10 mg for a mean duration of exposure of 22 weeks. The mean age of the population was 59 years and 4% were older than 75 years. Fifty-eight percent (58%) of the population were male; 84% were White, 9% were Asian, and 3% were Black or African American. At baseline, the population had diabetes for an average of 9 years, had a mean HbA1c of 8.2%, and 30% had established microvascular disease. Baseline renal function was normal or mildly impaired in 88% of patients and moderately impaired in 11% of patients (mean eGFR 82 mL/min/1.73 m<sup>2</sup>).

**Volume Depletion**

Dapagliflozin causes an osmotic diuresis, which may lead to reductions in intravascular volume. Adverse reactions related to volume depletion (including reports of dehydration, hypovolemia, orthostatic hypotension, or hypotension) for the 12-study and 13-study, short-term, placebo-controlled pools and for the DECLARE study are shown in Table 3 [see WARNINGS AND PRECAUTIONS (5.2)].

Table 3: Adverse Reactions of Volume Depletion\* in Clinical Studies with Dapagliflozin

	Pool of 12 Placebo-Controlled Studies			Pool of 13 Placebo-Controlled Studies			
	Placebo	Dapagliflozin 5mg	Dapagliflozin 10mg	Placebo	Dapagliflozin 10mg	Placebo	Dapagliflozin 10mg



DAPAGLIFLOZIN AND METFORMIN HYDROCHLORIDE EXTENDED RELEASE TABLETS 5/500mg

Overall population N(%)	N=1393 5 (0.4%)	N=1145 7 (0.6%)	N=119 3 9 (0.8%)	N=2295 17 (0.7%)	N=2360 27 (1.1%)	N=8569 207 (2.4%)	N=8574 213 (2.5%)
Patient Subgroup n (%)							
Patients on loop diuretics n=55		n=40	n=31	n=267	n=236	n=934	n=866
	(1.8%)		(9.7%)	(1.5%)	(2.5%)	(6.1%)	(6.6%)
Patients with moderate renal impairment with eGFR ≥30 and <60 mL/min/1.73m <sup>2</sup> n=107		n=107	n=89	n=268	n=265	n=658	n=604
		1 (0.9%)	1 (1.1%)	4 (1.5%)	5 (1.9%)	30 (4.6%)	35 (5.8%)
Patients ≥65 years of age n=276		n=216	n=204	n=711	n=665	n=395	n=398
		1 (0.4%)	3 (1.5%)	6 (0.8%)	11 (1.7%)	0 121 (3.1%)	117 (3.0%)

\*Volume depletion includes reports of dehydration, hypovolemia, orthostatic hypotension, or hypotension.

Hypoglycemia

The frequency of hypoglycemia by study is shown in Table 4. Hypoglycemia was more frequent when dapagliflozin was added to sulfonylurea or insulin.

Table 4: Incidence of Severe Hypoglycemia\* and Hypoglycemia with Glucose <54 mg/dL† in Controlled

Clinical Studies



	Placebo	Dapagliflozin 5mg	Dapagliflozin 10mg
Add-onto Metformin (24 weeks)	N=137	N=137	N=135
Severe [n (%)]	0	0	0
Glucose < 54 mg/dL [n (%)]	0	0	0
Add-on to DPP-4 inhibitor (with or without Metformin) (24 weeks)	N=226	-	N=225
Severe [n (%)]	0	-	1(0.4)
Glucose < 54 mg/dL [n (%)]	1(0.4)	-	1(0.4)
Add-onto Insulin with or without other OADs (24 weeks)	N=197 ‡	N=212	N=196
Severe [n (%)]	1(0.5)	2(0.9)	2(1.0)
Glucose < 54 mg/dL [n (%)]	43 (21.8)	55 (25.9)	45 (23.0)

\*Severe episodes of hypoglycemia were defined as episodes of severe impairment in consciousness or behavior, requiring external (third party) assistance, and with prompt recovery after intervention regardless of glucose level.

‡Episodes of hypoglycemia with glucose < 54 mg/dL (3 mmol/L) were defined as reported episodes of hypoglycemia meeting the glucose criteria that did not also qualify as a severe episode.

## SUMMARY OF PRODUCT CHARACTERISTICS

## DAPAGLIFLOZIN AND METFORMIN HYDROCHLORIDE EXTENDED RELEASE

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 TABLETS 5/500mg
 

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‡OAD = oral antidiabetic therapy.

In the DECLARE study, severe events of hypoglycemia were reported in 58 (0.7%) out of 8574 patients treated with dapagliflozin 10 mg and 83 (1.0%) out of 8569 patients treated with placebo.

#### Genital Mycotic Infections

Genital mycotic infections were more frequent with dapagliflozin treatment. Genital mycotic infections were reported in 0.9% of patients on placebo, 5.7% on dapagliflozin 5 mg, and 4.8% on dapagliflozin 10 mg, in the 12-study placebo-controlled pool. Discontinuation from study due to genital infection occurred

in 0% of placebo-treated patients and 0.2% of patients treated with dapagliflozin 10 mg. Infections were more frequently reported in females than in males (see Table 2). The most frequently reported genital mycotic infections were vulvovaginal mycotic infections in females and balanitis in males. Patients with a history of genital mycotic infections were more likely to have a genital mycotic infection during the study than those with no prior history (10.0%, 23.1%, and 25.0% versus 0.8%, 5.9%, and 5.0% on placebo, dapagliflozin 5 mg, and dapagliflozin 10 mg, respectively). In the DECLARE study, serious genital mycotic infections were reported in <0.1% of patients treated with dapagliflozin 10 mg and <0.1% of patients treated with placebo. Genital mycotic infections that caused study drug discontinuation were reported in 0.9% of patients treated with dapagliflozin 10 mg and <0.1% of patients treated with placebo.

#### Hypersensitivity Reactions

Hypersensitivity reactions (e.g., angioedema, urticaria, hypersensitivity) were reported with dapagliflozin treatment. Across the clinical program, serious anaphylactic reactions and severe cutaneous adverse reactions and angioedema were reported in 0.2% of comparator-treated patients and 0.3% of dapagliflozin-treated patients. If hypersensitivity reactions occur, discontinue use of dapagliflozin; treat per standard of care and monitor until signs and symptoms resolve.

#### Ketoacidosis

In the DECLARE study, events of diabetic ketoacidosis (DKA) were reported in 27 out of 8574 patients in the dapagliflozin-treated group and in 12 out of 8569 patients in the placebo group. The events were evenly distributed over the study period.

#### Laboratory Tests

Increases in Serum Creatinine and Decreases in eGFR

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 Dapagliflozin
 

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Initiation of Dapagliflozin causes an increase in serum creatinine and decrease in eGFR. In patients with normal or mildly impaired renal function at baseline, the serum creatinine and eGFR returned to baseline at Week 24. Sustained decreases in eGFR were seen in patients with moderate renal impairment (eGFR 30 to less than 60 mL/min/1.73 m<sup>2</sup>)

#### Increase in Hematocrit

##### Dapagliflozin

In the pool of 13 placebo-controlled studies, increases from baseline in mean hematocrit values were observed in dapagliflozin-treated patients starting at Week 1 and continuing up to Week 16, when the maximum mean difference from baseline was observed. At Week 24, the mean changes from baseline in hematocrit were -0.33% in the placebo group and 2.30% in the dapagliflozin 10 mg group. By Week 24, hematocrit values  $\geq 5\%$  were reported in 0.4% of placebo-treated patients and 1.3% of dapagliflozin 10 mg-treated patients.

#### Increase in Serum Inorganic Phosphorus

##### Dapagliflozin

In the pool of 13 placebo-controlled studies, increases from baseline in mean serum phosphorus levels were reported at Week 24 in dapagliflozin 10 mg-treated patients compared with placebo-treated patients (mean increases of 0.13 mg/dL versus -0.04 mg/dL, respectively). Higher proportions of patients with marked laboratory abnormalities of hypophosphatemia ( $\geq 5.6$  mg/dL if age  $\geq 65$  or  $\geq 5.1$  mg/dL if age  $\geq 66$ ) were reported in the dapagliflozin 10 mg group versus the placebo group at Week 24 (1.7% versus 0.9%, respectively).

#### Increase in Low-Density Lipoprotein Cholesterol

##### Dapagliflozin

In the pool of 13 placebo-controlled studies, changes from baseline in mean lipid values were reported in dapagliflozin-treated patients compared to placebo-treated patients. Mean percent change from baseline at Week 24 were 0.0% versus 2.5% for total cholesterol and -1.0% versus 2.9% for LDL cholesterol in the placebo and dapagliflozin 10 mg groups, respectively.

#### Vitamin B<sub>12</sub> Concentrations

##### Metformin hydrochloride





In metformin clinical trials of 29-week duration, a decrease to subnormal levels of previously normal serum vitamin B12 levels was observed in approximately 7% of patients.

#### Post marketing Experience

##### Dapagliflozin

Additional adverse reactions have been identified during post approval use of Dapagliflozin. Because these reactions are reported voluntarily from a population of uncertain size, it is generally not possible to reliably estimate their frequency or establish a causal relationship to drug exposure.

- Ketoacidosis
- Acute Kidney Injury
- Urosepsis and Pyelonephritis
- Necrotizing Fasciitis of the Perineum (Fournier's Gangrene)
- Rash
- Metformin HCl
- Cholestatic, hepatocellular, and mixed hepatocellular liver injury

#### 4.9 Overdose

##### Dapagliflozin

There were no reports of overdose during the clinical development program for dapagliflozin. In the event of an overdose, contact the Poison Control Center. It is also reasonable to employ supportive measures as dictated by the patient's clinical status. The removal of dapagliflozin by hemodialysis has not been studied.

##### Metformin hydrochloride

Overdose of metformin hydrochloride has occurred, including ingestion of amounts >50 grams. Hypoglycemia was reported in approximately 10% of cases, but no causal association with metformin hydrochloride has been established. 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.

## 5. PHARMACOLOGICAL PROPERTIES

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### 5.1 Pharmacodynamic Properties

Pharmacotherapeutic group: Drugs used in diabetes, Combinations of oral blood glucose-lowering drugs,  
ATC code: A10BD15

Dapagliflozin and Metformin Extended Release tablets combine two antihyperglycaemic agents with

complementary mechanisms of action to improve glycaemic control in patients with type 2 diabetes: dapagliflozin, a sodium-glucose cotransporter 2 (SGLT2) inhibitor, and metformin hydrochloride, a biguanide.

#### Dapagliflozin

Sodium-glucose cotransporter 2 (SGLT2), expressed in the proximal renal tubules, is responsible for the majority of the reabsorption of filtered glucose from the tubular lumen. Dapagliflozin is an inhibitor of SGLT2. By inhibiting SGLT2, dapagliflozin reduces reabsorption of filtered glucose and lowers the renal threshold for glucose, and thereby increases urinary glucose excretion.

#### Metformin hydrochloride

Metformin improves glucose tolerance in patients with type 2 diabetes, 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. Metformin does not produce hypoglycemia in either patients with type 2 diabetes or in healthy subjects, except in unusual circumstances, and does not cause hyperinsulinemia. With metformin therapy, insulin secretion remains unchanged while fasting insulin levels and day-long plasma insulin response may actually decrease.

### 5.2 Pharmacokinetic Properties

Dapagliflozin and Metformin Extended Release tablets combination tablets are considered to be bioequivalent to coadministration of corresponding doses of Dapagliflozin and Metformin hydrochloride Extended Release administered together as individual tablets.

The administration of Dapagliflozin and Metformin Extended Release tablets in healthy subjects after a standard meal compared to the fasted state resulted in the same extent of exposure for both Dapagliflozin and Metformin Extended Release tablets. Compared to the fasted state, the standard meal resulted in 35% reduction and a delay of 1 to 2 hours in the peak plasma concentrations of Dapagliflozin. This effect of food is not considered to be clinically meaningful. Food has no relevant effect on the

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pharmacokinetics of Metformin when administered as Dapagliflozin and Metformin Extended Release combination tablets.

#### Absorption

##### Dapagliflozin

Following oral administration of Dapagliflozin, the maximum plasma concentration (C<sub>max</sub>) is usually attained within 2 hours under fasting state. The C<sub>max</sub> and AUC values increase dose proportionally with increase in Dapagliflozin dose in the therapeutic dose range. The absolute oral bioavailability of dapagliflozin following the administration of a 10 mg dose is 78%. Administration of dapagliflozin with a high-fat meal decreases its C<sub>max</sub> by up to 50% and prolongs T<sub>max</sub> by approximately 1 hour, but does not alter AUC as compared with the fasted state. These changes are not considered to be clinically meaningful and Dapagliflozin can be administered with or without food.

##### Metformin hydrochloride

Following a single oral dose of metformin Extended Release, C<sub>max</sub> is achieved with a median value of 7 hours and a range of 4 to 8 hours. The extent of metformin absorption (as measured by AUC) from the metformin Extended Release tablet increased by approximately 50% when given with food. There was no effect of food on C<sub>max</sub> and T<sub>max</sub> of Metformin.

#### Distribution

##### Dapagliflozin

Dapagliflozin is approximately 91% protein bound. Protein binding is not altered in patients with renal or hepatic impairment.

##### Metformin hydrochloride

Distribution studies with Extended Release metformin have not been conducted; however, the apparent volume of distribution (V<sub>d</sub>) of metformin following single oral doses of immediate-release metformin 850 mg averaged 654 ± 358 L. Metformin is negligibly bound to plasma proteins, in contrast to sulfonylureas, which are more than 90% protein bound. Metformin partitions into erythrocytes.

#### Metabolism

##### Dapagliflozin

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The metabolism of Dapagliflozin is primarily mediated by UGT1A9; CYP-mediated metabolism is a minor clearance pathway in humans. Dapagliflozin is extensively metabolized, primarily to yield dapagliflozin 3-O-glucuronide, which is an inactive metabolite. Dapagliflozin 3-O-glucuronide accounted for 61% of a 50 mg [<sup>14</sup>C]-dapagliflozin dose and is the predominant drug-related component in human plasma.

#### Metformin hydrochloride

Intravenous single-dose studies in healthy subjects demonstrate that metformin is excreted unchanged in the urine and does not undergo hepatic metabolism (no metabolites have been identified in humans) or biliary excretion.

Metabolism studies with Extended-release metformin tablets have not been conducted.

#### Elimination

##### Dapagliflozin

Dapagliflozin and related metabolites are primarily eliminated via the renal pathway. Following a single 50 mg dose of [<sup>14</sup>C]-dapagliflozin, 75% and 21% total radioactivity is excreted in urine and feces, respectively. In urine, less than 2% of the dose is excreted as parent drug. In feces, approximately 15% of the dose is excreted as parent drug. The mean plasma terminal half-life ( $t_{1/2}$ ) for dapagliflozin is approximately 12.9 hours following a single oral dose of dapagliflozin 10 mg.

#### Metformin hydrochloride

Renal clearance is approximately 3.5 times greater than creatinine clearance, which indicates that tubular secretion is the major route of metformin elimination. Following oral administration, approximately 90% of the absorbed drug is eliminated via the renal route within the first 24 hours, with a plasma elimination half-life of approximately 6.2 hours. In blood, the elimination half-life is approximately 17.6 hours, suggesting that the erythrocyte mass may be a compartment of distribution.

#### Specific Populations

##### Renal Impairment

##### Dapagliflozin

At steady-state (20 mg once-daily dapagliflozin for 7 days), patients with type 2 diabetes with mild, moderate, or severe renal impairment (as determined by eGFR) had geometric mean systemic exposures of dapagliflozin that were 45%, 204%, and 303% higher, respectively, as compared to patients



with type 2 diabetes with normal renal function. Higher systemic exposure of dapagliflozin in patients with type 2 diabetes mellitus with renal impairment did not result in a correspondingly higher 24-hour glucose excretion. The steady-state 24-hour urinary glucose excretion in patients with type 2 diabetes and mild, moderate, and severe renal impairment was 42%, 80%, and 90% lower, respectively, than in patients with type 2 diabetes with normal renal function. The impact of hemodialysis on Dapagliflozin exposure is not known.

#### Metformin hydrochloride

In patients with decreased renal function, the plasma and blood half-life of Metformin is prolonged and the renal clearance is decreased.

#### Hepatic Impairment

##### Dapagliflozin

In patients with mild and moderate hepatic impairment (Child-Pugh Classes A and B), mean C<sub>max</sub> and AUC of dapagliflozin were up to 12% and 36% higher, respectively, as compared to healthy matched control subjects following single-dose administration of 10 mg dapagliflozin. These differences were not considered to be clinically meaningful. In patients with severe hepatic impairment (Child-Pugh Class C), mean C<sub>max</sub> and AUC of Dapagliflozin were up to 40% and 67% higher, respectively, as compared to healthy matched controls.

##### Metformin hydrochloride

No pharmacokinetic studies of metformin have been conducted in patients with hepatic impairment.

#### Geriatric

##### Dapagliflozin

Based on a population pharmacokinetic analysis, age does not have a clinically meaningful effect on systemic exposures of Dapagliflozin; thus, no dose adjustment is recommended.

##### Metformin hydrochloride

Limited data from controlled pharmacokinetic studies of metformin in healthy elderly subjects suggest that total plasma clearance of Metformin is decreased, the half-life is prolonged, and C<sub>max</sub> is increased, compared to healthy young subjects. From these data, it appears that the change in metformin pharmacokinetics with aging is primarily accounted for by a change in renal function.



#### Pediatric

Pharmacokinetics of Dapagliflozin and Metformin Extended Release tablets in the pediatric population has not been studied.

#### Gender

##### Dapagliflozin

Based on a population pharmacokinetic analysis, gender does not have a clinically meaningful effect on systemic exposures of Dapagliflozin; thus, no dose adjustment is recommended.

##### Metformin hydrochloride

Metformin pharmacokinetic parameters did not differ significantly between healthy subjects and patients with type 2 diabetes when analyzed according to gender (males=19, females=16). Similarly, in controlled clinical studies in patients with type 2 diabetes, the antihyperglycaemic effect of Metformin was comparable in males and females.

#### Race

##### Dapagliflozin

Based on a population pharmacokinetic analysis, race (White, Black, or Asian) does not have a clinically meaningful effect on systemic exposures of Dapagliflozin; thus, no dose adjustment is recommended.

##### Metformin hydrochloride

No studies of Metformin pharmacokinetic parameters according to race have been performed. In controlled clinical studies of metformin in patients with type 2 diabetes, the antihyperglycaemic effect was comparable in Whites (n=249), Blacks (n=51), and Hispanics (n=24).

#### Body Weight

##### Dapagliflozin

Based on a population pharmacokinetic analysis, body weight does not have a clinically meaningful effect on systemic exposures of Dapagliflozin; thus, no dose adjustment is recommended.



#### Drug Interactions

Specific pharmacokinetic drug interaction studies with Dapagliflozin and Metformin HCl Extended Release tablets have not been performed, although such studies have been conducted with the individual Dapagliflozin and Metformin components.

#### 5.3 Preclinical safety Data

##### Dapagliflozin and Metformin Extended Release tablets

No animal studies have been conducted with Dapagliflozin and Metformin Extended Release tablets to evaluate carcinogenesis, mutagenesis, or impairment of fertility. The following data are based on the findings in the studies with dapagliflozin and metformin individually.

##### Dapagliflozin

Dapagliflozin did not induce tumors in either mice or rats at any of the doses evaluated in 2-year carcinogenicity studies. Oral doses in mice consisted of 5, 15, and 40 mg/kg/day in males and 2, 10, and 20 mg/kg/day in females, and oral doses in rats were 0.5, 2, and 10 mg/kg/day for both males and females. The highest doses evaluated in mice were approximately 72 times (males) and 105 times (females) the clinical dose of 10 mg/day based on AUC exposure. In rats, the highest dose was approximately 131 times (males) and 186 times (females) the clinical dose of 10 mg/day based on AUC exposure.

Dapagliflozin was negative in the Ames mutagenicity assay and was positive in a series of in vitro clastogenicity assays in the presence of S9 activation and at concentrations  $\geq 100$   $\mu\text{g/mL}$ . Dapagliflozin was negative for clastogenicity in a series of in vivo studies evaluating micronuclei or DNA repair in rats at exposure multiples  $> 2100$  times the clinical dose.

There was no carcinogenicity or mutagenicity signal in animal studies, suggesting that dapagliflozin does not represent a genotoxic risk to humans.

Dapagliflozin had no effects on mating, fertility, or early embryonic development in treated male or female rats at exposure multiples  $\leq 1708$  and 998 times the maximum recommended human doses in males and females, respectively.

##### Metformin hydrochloride

Long-term carcinogenicity studies have been performed in rats (dosing duration of 104 weeks) and mice (dosing duration of 91 weeks) at doses up to and including 900 and 1500 mg/kg/day, respectively. These



doses are both approximately 4 times the MRHD of 2000 mg based on body surface area comparisons. No evidence of carcinogenicity with metformin was found in either male or female mice. Similarly, there was no tumorigenic potential observed with metformin in male rats. There was, however, an increased incidence of benign stromal uterine polyps in female rats treated with 900 mg/kg/day.

There was no evidence of a mutagenic potential of Metformin in the following in vitro tests: Ames test (S. typhimurium), gene mutation test (mouse lymphoma cells), or chromosomal aberrations test (human lymphocytes). Results in the in vivo mouse micronucleus test were also negative. Fertility of male or female rats was unaffected by metformin when administered at doses as high as 600 mg/kg/day, which is approximately 3 times the MRHD based on body surface area comparisons.





## 6. PHARMACEUTICAL PARTICULARS

### 6.1 List of excipients:

Microcrystalline Cellulose

Anhydrous Lactose

Crospovidone

Polysorbate 80

Colloidal silicon dioxide

Ferric Oxide Yellow/ Yellow Iron Oxide

Povidone K-30

Glyceryl Behenate

Hydroxypropyl Methyl Cellulose 100 M Premium

Hydroxypropyl Methyl Cellulose 200M Premium

Magnesium Stearate

Hydroxypropyl Methyl Cellulose E3/Methocel

Talc

Polyethyleneglycol

Opadry Orange 85F530162

(Polyvinyl Alcohol-part. Hydrolyzed, Titanium Dioxide, Macrogol/PEG, Talc, FD&C Yellow #6/Sunset Yellow FCF Aluminium Lake, FD&C Yellow #6/ Sunset Yellow FCF Aluminium Lake)

### 6.2 Incompatibilities:

Not applicable

### 6.3 Shelf life:

24 months

### 6.4 Special precautions for storage:

Store below 30°C, store in the original package. Protect from light

### 6.5 Nature and contents of container:

10 Tablets are packed in Alu-Alu blister pack. Such 3 blisters are packed in a carton along with pack insert.

MICROLABS LIMITED, INDIA

SUMMARY OF PRODUCT CHARACTERISTICS

DAPAGLIFLOZIN AND METFORMIN HYDROCHLORIDE EXTENDED RELEASE

TABLETS 5/500mg

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#### 6.6 Special precautions for disposal and other handling

Any unused product or waste material should be disposed of in accordance with local requirements

#### 7. Marketing Authorization Holder:

MICROLABS LIMITED

31, Race Course Road

Bangalore-560001

INDIA

#### 8. Marketing Authorization Numbers

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#### 9. Date of first authorization

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#### 10. Date of revision of the text

Dec 2021