


When it comes to DPP-4 inhibition

TRAJENTA® (linagliptin): The only approved DPP-4i that does not require dose reduction based on renal function¹⁻⁵

	Dosing adjustment based on renal function as defined by SmPC*			
	Normal function	Mild impairment	Moderate impairment	Severe impairment/ESRD
 TRAJENTA® (linagliptin) ¹	5 mg OD			
sitagliptin ^{2†}	100 mg OD	100 mg OD GFR ≥60 to <90 ml/min	100 mg OD GFR ≥45 to <60 ml/min	50 mg OD GFR ≥30 to <45 ml/min 25 mg OD GFR ≥15 to <30 ml/min; ESRD (GFR <15 ml/min) including on haemodialysis or peritoneal dialysis
vildagliptin ³	50 mg BD 50 mg OD with an SU	50 mg BD # 50 mg OD** with an SU CrCl 50 to <80 ml/min	50 mg OD CrCl 30 to <50 ml/min	50 mg OD CrCl <30 ml/min ESRD on haemodialysis: use with caution
saxagliptin ^{4†}	5 mg OD	5 mg OD GFR ≥45 to <90 ml/min	5 mg OD GFR ≥45 ml/min	2.5 mg OD GFR ≥30 to <45 ml/min 2.5 mg OD GFR <30 ml/min ESRD on haemodialysis: not recommended
alogliptin ^{5†‡}	25 mg OD	25 mg OD CrCl >50 to ≤80 ml/min	12.5 mg OD CrCl ≥30 to ≤50 ml/min	6.25 mg OD CrCl <30 ml/min Limited experience in renal dialysis. Not studied in peritoneal dialysis

For individual guidance on DPP-4 inhibitor dosing in renal impairment please refer to the individual product SmPC

Adapted from:

1. TRAJENTA® SmPC 2. Sitagliptin SmPC 3. Vildagliptin SmPC 4. Saxagliptin SmPC
5. Alogliptin SmPC (see reference list on next page).

* As defined by respective Summaries of Product Characteristics

† Assessment of renal function is recommended prior to initiation and periodically thereafter

‡ Not indicated as monotherapy

50mg in the morning and 50mg in the evening

** 50mg in the morning

GFR: Glomerular filtration rate CrCl: Creatinine Clearance (based on Cockcroft-Gault formula)
OD: Once daily BD: Twice daily SU: Sulphonylurea ESRD: End-stage renal disease

NB Please note, Alogliptin is not marketed in the Republic of Ireland.

 **Trajenta**®
(linagliptin) 5mg tablets

References:

1. TRAJENTA® (linagliptin) Summary of Product Characteristics. SmPCs available at EMC: www.medicines.org.uk (GB) and www.emcmedicines.com/en-GB/northernireland/ (NI) and www.medicines.ie (IE).
2. Sitagliptin Summary of Product Characteristics. SmPCs available at EMC: www.medicines.org.uk (GB) and www.emcmedicines.com/en-GB/northernireland/ (NI) and www.medicines.ie (IE).
3. Vildagliptin Summary of Product Characteristics. SmPCs available at EMC: www.medicines.org.uk (GB) and www.emcmedicines.com/en-GB/northernireland/ (NI) and www.medicines.ie (IE).
4. Saxagliptin Summary of Product Characteristics. SmPCs available at EMC: www.medicines.org.uk (GB) and www.emcmedicines.com/en-GB/northernireland/ (NI) and www.medicines.ie (IE).
5. Alogliptin Summary of Product Characteristics. SmPCs available at EMC: www.medicines.org.uk (GB) and www.emcmedicines.com/en-GB/northernireland/ (NI)

Prescribing Information (Great Britain) TRAJENTA® (Linagliptin)

Film-coated tablets containing 5 mg linagliptin. **Indication:** Trajenta is indicated in adults with type 2 diabetes mellitus as an adjunct to diet and exercise to improve glycaemic control as monotherapy when metformin is inappropriate due to intolerance, or contraindicated due to renal impairment; combination therapy in combination with other medicinal products for the treatment of diabetes, including insulin, when these do not provide adequate glycaemic control. **Dose and Administration:** 5 mg once daily. If added to metformin, the dose of metformin should be maintained and linagliptin administered concomitantly. When used in combination with a sulphonylurea or with insulin, a lower dose of the sulphonylurea or insulin, may be considered to reduce the risk of hypoglycaemia. **Renal impairment:** no dose adjustment required. **Hepatic impairment:** pharmacokinetic studies suggest that no dose adjustment is required for patients with hepatic impairment but clinical experience in such patients is lacking. **Elderly:** no dose adjustment is necessary based on age. **Paediatric population:** the safety and efficacy of linagliptin in children and adolescents has not yet been established. No data are available. The tablets can be taken with or without a meal at any time of the day. If a dose is missed, it should be taken as soon as possible but a double dose should not be taken on the same day. **Contraindications:** Hypersensitivity to the active substance or to any of the excipients. **Warnings and Precautions:** Linagliptin should not be used in patients with type 1 diabetes or for the treatment of diabetic ketoacidosis. **Hypoglycaemia:** Caution is advised when linagliptin is used in combination with a sulphonylurea and/or insulin; a dose reduction of the sulphonylurea or insulin may be considered. **Acute pancreatitis:** Acute pancreatitis has been observed in patients taking linagliptin. Patients should be informed of the characteristic symptoms of acute pancreatitis. If pancreatitis is suspected, Trajenta should be discontinued. If acute pancreatitis is confirmed, Trajenta should not be restarted. Caution should be exercised in patients with a history of pancreatitis. **Bullous pemphigoid:** Bullous pemphigoid has been observed in patients taking Linagliptin. If bullous pemphigoid is suspected, Trajenta should be discontinued. **Interactions:** Linagliptin is a weak competitive and a weak to moderate mechanism-based inhibitor of CYP isozyme CYP3A4, but does not inhibit other CYP isozymes. It is not an inducer of CYP isozymes. Linagliptin is a P-glycoprotein substrate and inhibits P-glycoprotein mediated transport of digoxin with low potency. Based on these results and *in vivo* interaction studies, linagliptin is considered unlikely to cause interactions with other P-glycoprotein substrates. **Effects of other medicinal products on linagliptin:** The risk for clinically meaningful interactions by other medicinal products on linagliptin is low. **Rifampicin:** Multiple co-administration of 5 mg linagliptin with rifampicin, a potent inducer of P-glycoprotein and CYP3A4, decreased linagliptin steady state AUC and C_{max}. Thus, full efficacy of linagliptin in combination with strong P-glycoprotein inducers

might not be achieved, particularly if administered long term. Co-administration with other potent inducers of P-glycoprotein and CYP3A4, such as carbamazepine, phenobarbital and phenytoin has not been studied. **Effects of linagliptin on other medicinal products:** In clinical studies linagliptin had no clinically relevant effect on the pharmacokinetics of metformin, glibenclamide, simvastatin, warfarin, digoxin or oral contraceptives (please refer to Summary of Product Characteristics for a full list of interactions and clinical data). **Fertility, pregnancy and lactation:** The use of linagliptin has not been studied in pregnant women. As a precautionary measure, avoid use during pregnancy. A risk to the breast-fed child cannot be excluded. A decision must be made whether to discontinue breast-feeding or to discontinue/abstain from linagliptin therapy taking into account the benefit of breast-feeding for the child and the benefit of therapy for the woman. No studies on the effect on human fertility have been conducted for linagliptin. **Undesirable effects:** Adverse reactions reported in patients who received linagliptin 5 mg daily as monotherapy or as add-on therapies in clinical trials and from post-marketing experience. Frequencies are defined as very common ($\geq 1/10$), common ($\geq 1/100$ to $< 1/10$), uncommon ($\geq 1/1,000$ to $< 1/100$), rare ($\geq 1/10,000$ to $< 1/1,000$) or very rare ($< 1/10,000$). **Adverse reactions with linagliptin 5 mg daily as monotherapy:** Common: lipase increased. Uncommon: nasopharyngitis; hypersensitivity; cough; rash; amylase increased. Rare: pancreatitis; angioedema; urticaria; bullous pemphigoid. **Adverse reaction with linagliptin in combination with metformin plus sulphonylurea:** Very common: hypoglycaemia. **Adverse reaction with linagliptin in combination with insulin:** Uncommon: constipation. Prescribers should consult the Summary of Product Characteristics for further information on side effects. **Pack sizes and NHS price:** 28 tablets £33.26. **Legal category:** POM. **MA number:** PLGB 14598/0225. **Marketing Authorisation Holder:** Boehringer Ingelheim International GmbH, D-55216 Ingelheim am Rhein, Germany. Prescribers should consult the Summary of Product Characteristics for full prescribing information. **Prepared in** September 2021.

Adverse events should be reported. Reporting forms and information can be found at www.mhra.gov.uk/yellowcard Adverse events should also be reported to Boehringer Ingelheim Drug Safety on 0800 328 1627 (freephone).


Trajenta®
(linagliptin) 5mg tablets

Prescribing Information (Northern Ireland) TRAJENTA® (Linagliptin)

Film-coated tablets containing 5 mg linagliptin. **Indication:** Trajenta is indicated in adults with type 2 diabetes mellitus as an adjunct to diet and exercise to improve glycaemic control as: monotherapy when metformin is inappropriate due to intolerance, or contraindicated due to renal impairment; combination therapy in combination with other medicinal products for the treatment of diabetes, including insulin, when these do not provide adequate glycaemic control. **Dose and Administration:** 5 mg once daily. If added to metformin, the dose of metformin should be maintained and linagliptin administered concomitantly. When used in combination with a sulphonylurea or with insulin, a lower dose of the sulphonylurea or insulin, may be considered to reduce the risk of hypoglycaemia. **Renal impairment:** no dose adjustment required. **Hepatic impairment:** pharmacokinetic studies suggest that no dose adjustment is required for patients with hepatic impairment but clinical experience in such patients is lacking. **Elderly:** no dose adjustment is necessary based on age. **Paediatric population:** a clinical trial did not establish efficacy in paediatric patients 10 to 17 years of age. Therefore, treatment of children and adolescents with linagliptin is not recommended. Linagliptin has not been studied in paediatric patients under 10 years of age. The tablets can be taken with or without a meal at any time of the day. If a dose is missed, it should be taken as soon as possible but a double dose should not be taken on the same day. **Contraindications:** Hypersensitivity to the active substance or to any of the excipients. **Warnings and Precautions:** Linagliptin should not be used in patients with type 1 diabetes or for the treatment of diabetic ketoacidosis. **Hypoglycaemia:** Caution is advised when linagliptin is used in combination with a sulphonylurea and/or insulin; a dose reduction of the sulphonylurea or insulin may be considered. **Acute pancreatitis:** Acute pancreatitis has been observed in patients taking linagliptin. Patients should be informed of the characteristic symptoms of acute pancreatitis. If pancreatitis is suspected, Trajenta should be discontinued. If acute pancreatitis is confirmed, Trajenta should not be restarted. Caution should be exercised in patients with a history of pancreatitis. **Bullous pemphigoid:** Bullous pemphigoid has been observed in patients taking Linagliptin. If bullous pemphigoid is suspected, Trajenta should be discontinued. **Interactions:** Linagliptin is a weak competitive and a weak to moderate mechanism-based inhibitor of CYP isozyme CYP3A4, but does not inhibit other CYP isozymes. It is not an inducer of CYP isozymes. Linagliptin is a P-glycoprotein substrate and inhibits P-glycoprotein mediated transport of digoxin with low potency. Based on these results and *in vivo* interaction studies, linagliptin is considered unlikely to cause interactions with other P-glycoprotein substrates. **Effects of other medicinal products on linagliptin:** The risk for clinically

meaningful interactions by other medicinal products on linagliptin is low. Rifampicin: Multiple co-administration of 5 mg linagliptin with rifampicin, a potent inducer of P-glycoprotein and CYP3A4, decreased linagliptin steady state AUC and C_{max}. Thus, full efficacy of linagliptin in combination with strong P-glycoprotein inducers might not be achieved, particularly if administered long term. Co-administration with other potent inducers of P-glycoprotein and CYP3A4, such as carbamazepine, phenobarbital and phenytoin has not been studied. **Effects of linagliptin on other medicinal products:** In clinical studies linagliptin had no clinically relevant effect on the pharmacokinetics of metformin, glibenclamide, simvastatin, warfarin, digoxin or oral contraceptives (please refer to Summary of Product Characteristics for a full list of interactions and clinical data). **Fertility, pregnancy and lactation:** The use of linagliptin has not been studied in pregnant women. As a precautionary measure, avoid use during pregnancy. A risk to the breast-fed child cannot be excluded. A decision must be made whether to discontinue breast-feeding or to discontinue/abstain from linagliptin therapy taking into account the benefit of breast-feeding for the child and the benefit of therapy for the woman. No studies on the effect on human fertility have been conducted for linagliptin. **Undesirable effects:** Adverse reactions reported in patients who received linagliptin 5 mg daily as monotherapy or as add-on therapies in clinical trials and from post-marketing experience. Frequencies are defined as very common ($\geq 1/10$), common ($\geq 1/100$ to $< 1/100$), uncommon ($\geq 1/1,000$ to $< 1/100$), rare ($\geq 1/10,000$ to $< 1/1,000$) or very rare ($< 1/10,000$). **Adverse reactions with linagliptin 5 mg daily as monotherapy:** Common: lipase increased. Uncommon: nasopharyngitis; hypersensitivity; cough; rash; amylase increased. Rare: pancreatitis; angioedema; urticaria; bullous pemphigoid. **Adverse reaction with linagliptin in combination with metformin plus sulphonylurea:** Very common: hypoglycaemia. **Adverse reaction with linagliptin in combination with insulin:** Uncommon: constipation. Prescribers should consult the Summary of Product Characteristics for further information on side effects. **Pack sizes and NHS price:** 28 tablets £33.26. **Legal category:** POM. **MA number:** EU/1/11/707/003. **Marketing Authorisation Holder:** Boehringer Ingelheim International GmbH, 55216 Ingelheim am Rhein, Germany. Prescribers should consult the Summary of Product Characteristics for full prescribing information. **Prepared in** May 2023.

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Trajenta[®]
(linagliptin) 5mg tablets

Prescribing Information (Ireland) TRAJENTA® (Linagliptin)

Film-coated tablets containing 5 mg linagliptin. **Indication:** Trajenta is indicated in adults with type 2 diabetes mellitus as an adjunct to diet and exercise to improve glycaemic control as: monotherapy when metformin is inappropriate due to intolerance, or contraindicated due to renal impairment; combination therapy in combination with other medicinal products for the treatment of diabetes, including insulin, when these do not provide adequate glycaemic control. **Dose and Administration:** 5 mg once daily. If added to metformin, the dose of metformin should be maintained and linagliptin administered concomitantly. When used in combination with a sulphonylurea or with insulin, a lower dose of the sulphonylurea or insulin, may be considered to reduce the risk of hypoglycaemia. **Renal impairment:** no dose adjustment required. **Hepatic impairment:** pharmacokinetic studies suggest that no dose adjustment is required for patients with hepatic impairment but clinical experience in such patients is lacking. **Elderly:** no dose adjustment is necessary based on age. **Paediatric population:** a clinical trial did not establish efficacy in paediatric patients 10 to 17 years of age. Therefore, treatment of children and adolescents with linagliptin is not recommended. Linagliptin has not been studied in paediatric patients under 10 years of age. The tablets can be taken with or without a meal at any time of the day. If a dose is missed, it should be taken as soon as possible but a double dose should not be taken on the same day. **Contraindications:** Hypersensitivity to the active substance or to any of the excipients. **Warnings and Precautions:** Linagliptin should not be used in patients with type 1 diabetes or for the treatment of diabetic ketoacidosis. **Hypoglycaemia:** Caution is advised when linagliptin is used in combination with a sulphonylurea and/or insulin; a dose reduction of the sulphonylurea or insulin may be considered. **Acute pancreatitis:** Acute pancreatitis has been observed in patients taking linagliptin. Patients should be informed of the characteristic symptoms of acute pancreatitis. If pancreatitis is suspected, Trajenta should be discontinued. If acute pancreatitis is confirmed, Trajenta should not be restarted. Caution should be exercised in patients with a history of pancreatitis. **Bullous pemphigoid:** Bullous pemphigoid has been observed in patients taking Linagliptin. If bullous pemphigoid is suspected, Trajenta should be discontinued. **Interactions:** Linagliptin is a weak competitive and a weak to moderate mechanism-based inhibitor of CYP isozyme CYP3A4, but does not inhibit other CYP isozymes. It is not an inducer of CYP isozymes. Linagliptin is a P-glycoprotein substrate and inhibits P-glycoprotein mediated transport of digoxin with low potency. Based on these results and *in vivo* interaction studies, linagliptin is considered unlikely to cause interactions with other P-glycoprotein substrates. **Effects of other medicinal products on linagliptin:** The risk for clinically meaningful interactions by other medicinal products on linagliptin is low. **Rifampicin:** Multiple co-administration of 5 mg linagliptin with rifampicin, a potent inducer of P-glycoprotein and CYP3A4,

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Adverse events should be reported. Reporting forms and information can be found at <https://www.hpra.ie/homepage/about-us/report-an-issue>. Adverse events should also be reported to Boehringer-Ingelheim Drug Safety on 01 2913960, Fax: +44 1344 742661, or by e-mail: PV_local_UK_Ireland@boehringer-ingelheim.com


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