

To regulate blood glucose,<sup>1-3</sup> lower body weight<sup>1-3</sup> and reduce CV risk factors<sup>\*1-5</sup> in type 2 diabetes

**GLP-1 RAs mimic**  
the natural GLP-1 hormonal response<sup>1</sup> and

**BOOST**  
**SIGNALLING**  
within the body<sup>6,7</sup>

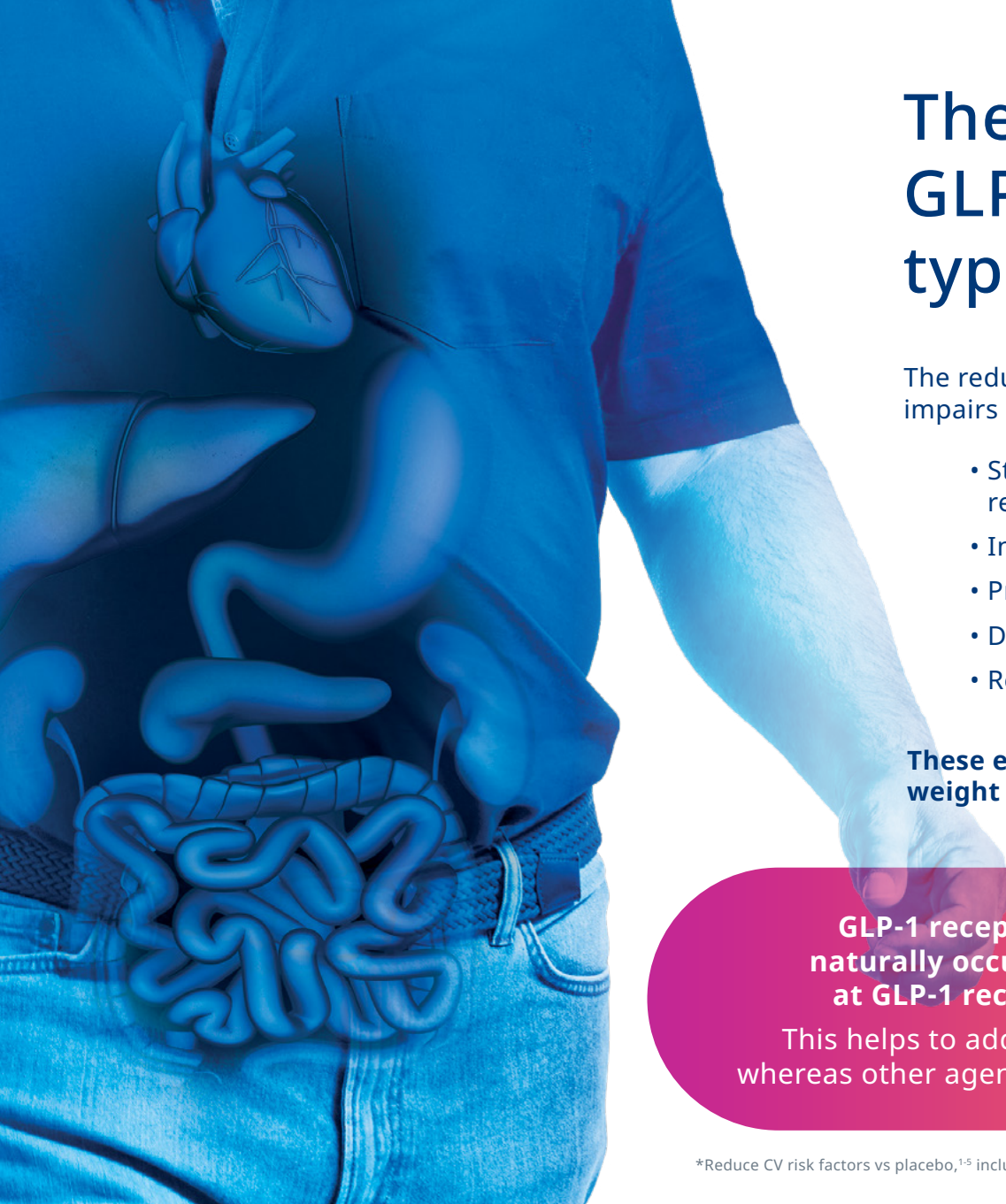
**A simple guide to explaining  
the benefits of GLP-1 RAs**

\*Reduce CV risk factors vs placebo,<sup>1-5</sup> including reduction in blood pressure,<sup>3,7</sup> plasma triglyceride levels and body weight.<sup>7</sup>

CV, cardiovascular; GLP-1, glucagon-like peptide-1;  
GLP-1 RAs, glucagon-like peptide-1 receptor agonists.







## The effect of natural GLP-1 is reduced in type 2 diabetes<sup>8-10</sup>

The reduced effect of natural GLP-1 in type 2 diabetes impairs its ability to:

- Stimulate insulin secretion and inhibit glucagon release from the pancreas<sup>2</sup>
- Inhibit hepatic glucose production<sup>8,11</sup>
- Promote satiety in the central nervous system<sup>6</sup>
- Delay gastric emptying<sup>2</sup>
- Reduce several cardiovascular (CV) risk factors<sup>\*6,7</sup>

**These effects contribute to unregulated blood glucose, weight gain and increased CV risk factors<sup>2,6-11</sup>**

**GLP-1 receptor agonists (GLP-1 RAs) mimic naturally occurring GLP-1 and boost signalling at GLP-1 receptors in multiple organs<sup>1,6,7,12,13</sup>**

This helps to address several defects in type 2 diabetes, whereas other agents, such as metformin, mainly target one<sup>14</sup>


\*Reduce CV risk factors vs placebo,<sup>1,5</sup> including reduction in blood pressure,<sup>3,7</sup> plasma triglyceride levels and body weight.<sup>7</sup>



## GLP-1 RAs help patients control their blood sugar level<sup>1,11,14</sup>


- GLP-1 RAs only work in response to high blood sugar level, which is why there is a low risk of hypoglycaemia for patients<sup>1,14</sup>





## GLP-1 RAs can help patients lose weight<sup>1,2</sup>

- GLP-1 RAs can act on the central nervous system to reduce patients' appetite and make them feel full sooner, so that they eat less<sup>1,12</sup>
- GLP-1 RAs also slow food absorption by slowing emptying of food from the stomach, preventing blood sugar from spiking after a meal<sup>11</sup>
- These effects are why some patients might feel nauseous to start with, but this tends to decrease with time<sup>11</sup>
- Some patients may also experience other digestive issues, such as diarrhoea or constipation<sup>11</sup>



## GLP-1 RAs can help protect patients' heart and blood vessels<sup>\*5</sup>

- GLP-1 RAs can reduce patients' blood pressure and blood triglyceride levels, so that there is less burden on the heart and blood vessels<sup>1-4,12,13</sup>
- These effects can also help protect the kidneys<sup>3,12</sup>

**Consider GLP-1 RAs for your patients to address the multiple defects of type 2 diabetes<sup>1,14</sup>**

\*All GLP-1 RAs have been shown to reduce CV risk factors<sup>1-4,12,13</sup> and some have been proven to reduce the risk of CV events.<sup>5</sup>



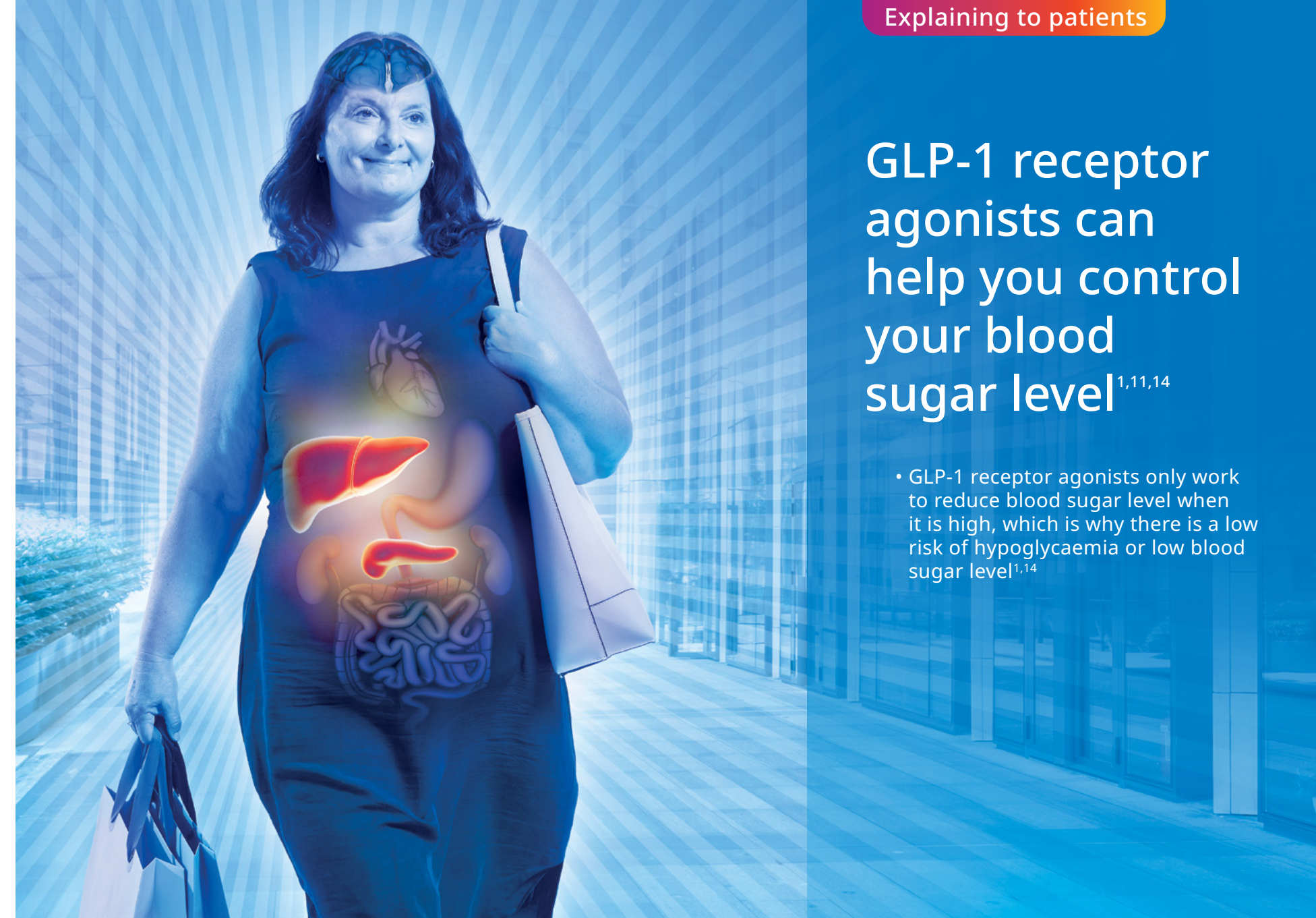
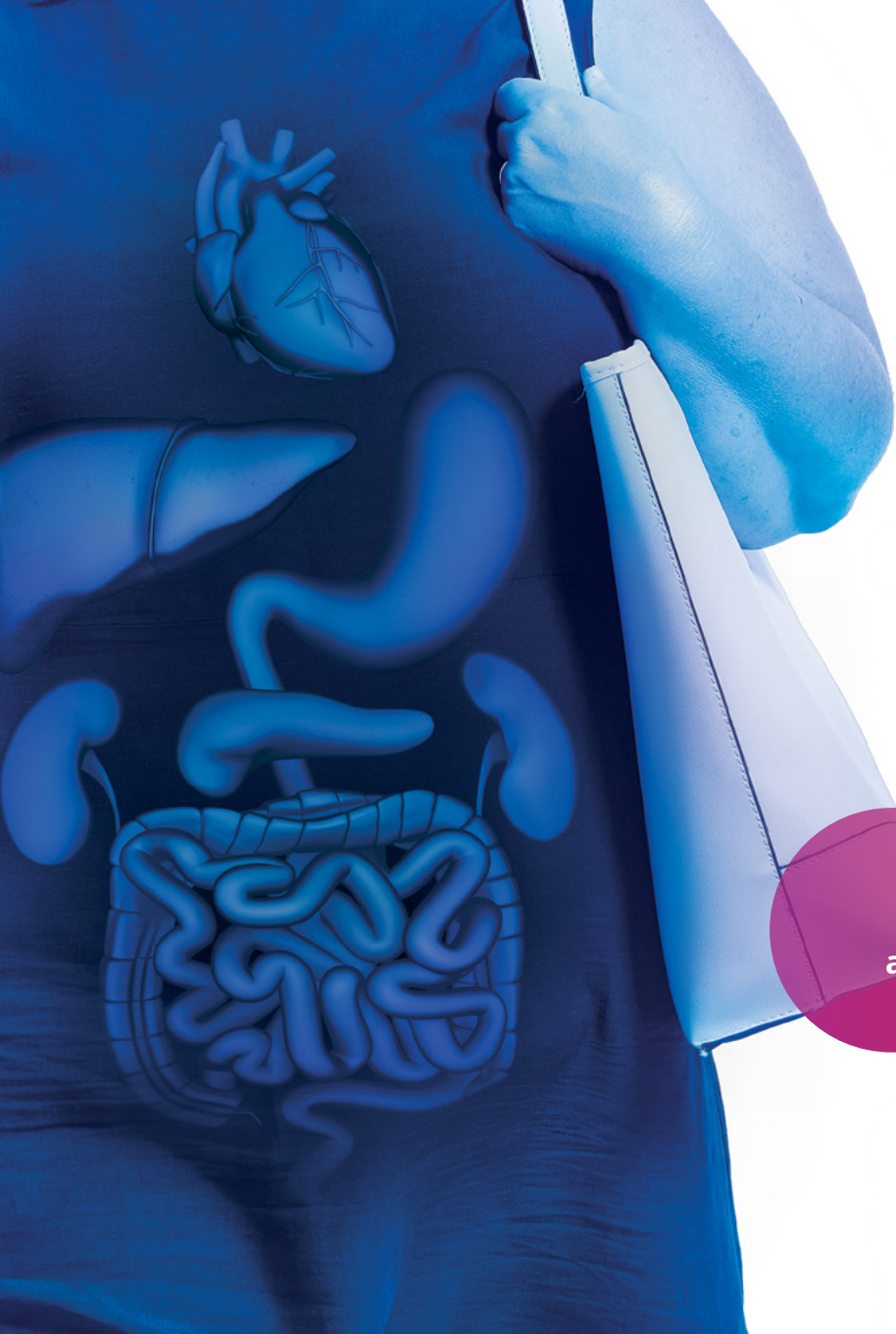
## A simple way to explain the benefits of GLP-1 RAs to your patients with type 2 diabetes

Glucagon-like peptide-1 or GLP-1 is a hormone produced in the body, with a number of effects in various organs. In type 2 diabetes, these effects of GLP-1 are reduced.<sup>8-10</sup>

GLP-1 RAs or glucagon-like peptide-1 receptor agonists can mimic natural GLP-1 and boost GLP-1 signalling in multiple organs<sup>1,6,7,12,13</sup>

## GLP-1 receptor agonists can help you control your blood sugar level<sup>1,11,14</sup>

- GLP-1 receptor agonists only work to reduce blood sugar level when it is high, which is why there is a low risk of hypoglycaemia or low blood sugar level<sup>1,14</sup>







## GLP-1 RAs can help you lose weight<sup>1,2</sup>

- GLP-1 RAs can reduce your appetite and make you feel full sooner, so that you eat less<sup>1,12</sup>
- GLP-1 RAs also slow food absorption by slowing emptying of food from the stomach<sup>11</sup>
- These effects may cause you to feel nauseous to start with, but this tends to reduce with time<sup>11</sup>
- You may also experience other digestive issues, such as diarrhoea or constipation<sup>11</sup>



## GLP-1 RAs can help protect your heart and blood vessels<sup>\*5</sup>

- GLP-1 RAs can reduce your blood pressure and blood triglyceride (fat) levels, so that there is less burden on your heart and blood vessels<sup>1-4,12,13</sup>
- These effects can also help protect your kidneys<sup>3,12</sup>

**GLP-1 receptor agonists can help you control your blood sugar level, lose weight and protect your heart<sup>1,14</sup>**

\*All GLP-1 RAs have been shown to reduce CV risk factors<sup>1-4,12,13</sup> and some have been proven to reduce the risk of CV events.<sup>5</sup>



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**References:**

1. Cornell S. *J Clin Pharm Ther.* 2020;45(Suppl 1):17–27. 2. Andreasen CR, et al. *Endocr Connect.* 2021;10(7):R200–R212. 3. Nauck MA, et al. *Mol Metab.* 2021;46:101102. 4. Andrikou E, et al. *Hellenic J Cardiol.* 2019;60(6):347–351. 5. Kristensen SL, et al. *Lancet Diabetes Endocrinol.* 2019;7(10):776–785. 6. Reed J, et al. *F1000Res.* 2020 Apr 6;9:F1000 Faculty Rev-239. doi: 10.12688/f1000research.20602.1. eCollection 2020. 7. Muskiet MHA, et al. *Nat Rev Nephrol.* 2017;13(10):605–628. 8. Sharma D, et al. *Biomed Pharmacother.* 2018;108:952–962. 9. Holst JJ, et al. *Mol Cell Endocrinol.* 2009;297(1-2):127–136. 10. Nauck MA, Meier JJ. *Lancet Diabetes Endocrinol.* 2016;4(6):525–536. 11. Shaefer Jr CF, et al. *Postgrad Med.* 2015;127(8):818–826. 12. Kalra S, et al. *Diabetes Ther.* 2019;10(5):1645–1717. 13. Sposito A, et al. *Cardiovasc Diabetol.* 2018;17(1):157. 14. Rasalam R, et al. *Diabetes Ther.* 2019;10(4):1205–1217.

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