

# Glucerna®

## SCIENTIFICALLY FORMULATED, DIABETES-SPECIFIC NUTRITION TO SUPPORT THE CONTINUITY OF CARE IN DIABETES



SPECIALLY DESIGNED FOR USE AS A MEAL REPLACEMENT OR DIETARY SUPPLEMENTATION



# Dietary strategy to increase GLP-1 action in T2DM can be achieved with the unique composition of **GLUCERNA<sup>®</sup>**

Glucagon-like peptide 1 (GLP-1) is recognized as a key determinant of blood glucose homeostasis and is associated with several physiological benefits<sup>3,4</sup>:



However, **GLP-1 response to meals is reduced in T2DM patients and is associated with a higher HbA1c and greater postprandial hyperglycemia<sup>5,6</sup>**



**-20%**  
in women



**-13%**  
in men

Plasma GLP-1 response is reduced in T2DM<sup>5</sup>

## Unique nutrient combination of **GLUCERNA<sup>®</sup>**

**Slowly digested carbohydrates**  
(Fibersol-2 & sucromalt)

Slowly digested, fermentable carbohydrates travel down to the distal part of the small intestine and colon, stimulating a rise in GLP-1<sup>4</sup>

**Mono-/polyunsaturated fatty acids**  
(MUFAs/PUFAs)

**GLP-1**  
GI tract



High levels of PUFAs and MUFAs are potent stimulators of GLP-1 release through interactions with free fatty acid receptors 1 and 4 (FFAR1, FFAR4)<sup>4</sup>

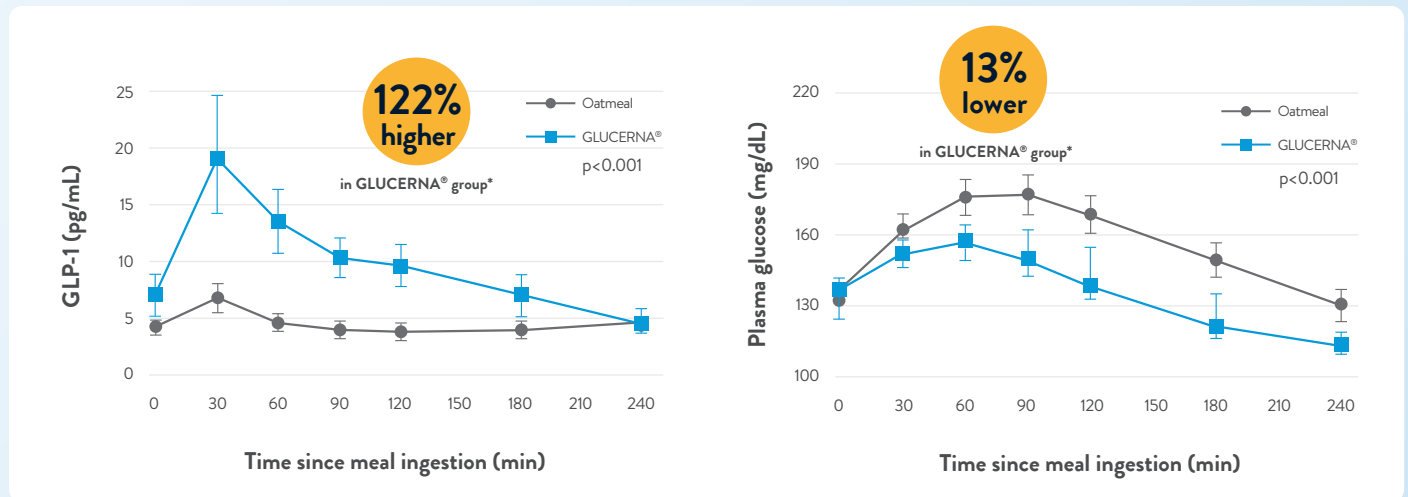
Intake of unsaturated FAs is associated with improvements in glycemia and CVD risk factors<sup>7</sup>

**Protein**

The breakdown of protein releases amino acids and peptides that stimulate GLP-1 secretion<sup>4</sup>

# GLUCERNA®'s slowly digested carbohydrates and high MUFA levels improve postprandial glucose response through stimulation of GLP-1

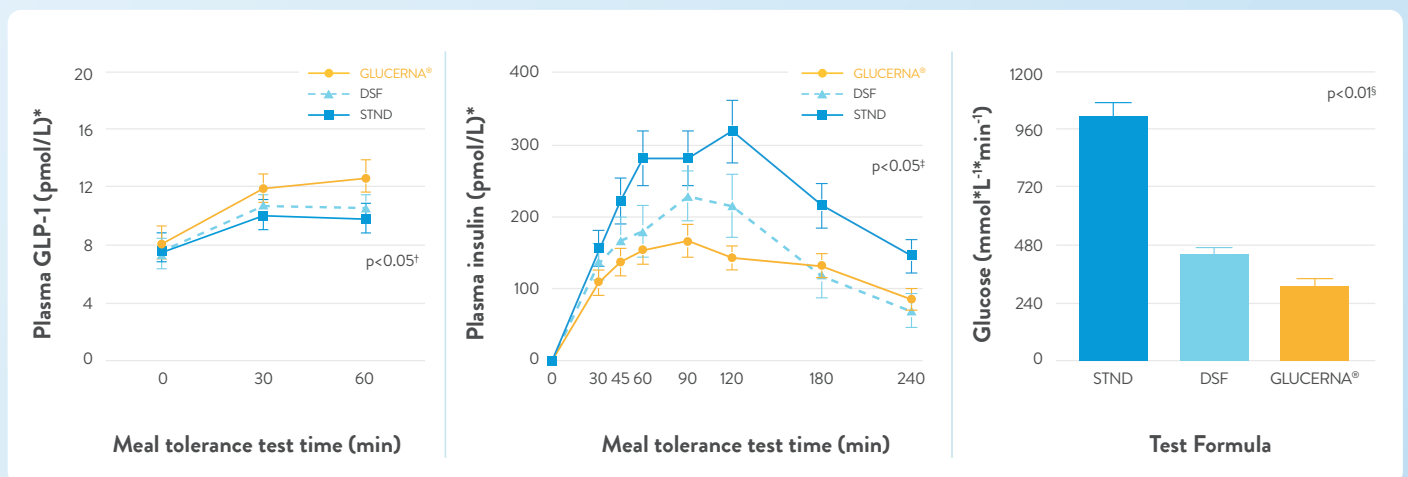
GLUCERNA® improved **4-hour postprandial glucose and GLP-1 responses** compared with oatmeal of similar caloric level.<sup>8</sup>



\*Difference in mean ± SEM values compared with oatmeal.

**Study design<sup>8</sup>:** A crossover, three-way, open-label clinical study of 22 overweight/obese patients with T2DM to evaluate postprandial effects of GLUCERNA® versus oatmeal on glucose and GLP-1 responses.

Compared with other standard (STND) and diabetes-specific formulas (DSF), GLUCERNA® resulted in **significantly higher levels of GLP-1 and lower blood glucose responses in the presence of significantly lower insulin concentrations.**<sup>9</sup>



\*Mean ± SEM adjusted (change from baseline) values. †p=0.001 (GLUCERNA® vs STND), p=0.025 (GLUCERNA® vs DSF) at 60 min. ‡p<0.05 using crossover analysis (GLUCERNA® vs STND at each time point; GLUCERNA® vs DSF at 90 and 120 min). §For all three formulas, p<0.01 using crossover analysis.

**Study design<sup>9</sup>:** A double-blind, randomized, three-treatment, crossover study of 48 subjects with T2DM to evaluate the effects of GLUCERNA®, DSF and STND on postprandial glucose, insulin and GLP-1 responses.



Compared with other formulas, **GLUCERNA® has higher levels of unsaturated fatty acids and slowly digested carbohydrates** that help delay gastric emptying and slow the absorption of carbohydrates, leading to blunted glycemic responses.<sup>9</sup>



## Unique nutrition profile of GLUCERNA®

Sustained satiety (PYY levels) over 4 hours<sup>10</sup>

Increased GLP-1 response over 3 hours<sup>1</sup>

Reduced HbA1c by 1.1% in 6 months<sup>11</sup>

Reduced weight by 9.7% in 12 weeks<sup>12</sup>

### Help manage weight loss and glycemic control to achieve T2DM remission

American Diabetes Association

Every 1% drop in HbA1c can lead to

**40%**

reduction in risk of diabetes-related complications<sup>13</sup>

Diabetes Remission Clinical Trial

Lifestyle intervention for weight loss resulted in diabetes remission in 46% of patients;

Diabetes remission rate at 1 year rose progressively from

**7% to 86%**

as weight loss increased from **<5% to ≥15%**<sup>14</sup>

## Suggested use of GLUCERNA® based on weight status and degree of diabetes control

The use of diabetes-specific formulas varies between individuals and should be based on clinical judgment and the overall assessment of the individual.

**Overweight/obese** <250 lbs = 1,200–1,500 calories  
>250 lbs = 1,500–1,800 calories

Use 2–3 diabetes-specific formulas per day as a meal replacement to help reduce caloric intake

**Normal weight** Incorporate 1–2 diabetes-specific formulas per day into a meal plan, as a meal replacement or a snack

**Underweight** Use 1–3 diabetes-specific formulas per day as a dietary supplementation, based on desired rate of weight gain and clinical tolerance



Abbreviations: **CVD**: cardiovascular disease; **GI**: gastrointestinal; **HbA1c**: glycated hemoglobin; **PYY**: peptide-YY; **SEM**: standard error of mean; **T2DM**: type 2 diabetes mellitus.

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Compared to a typical breakfast, as part of a diabetes management program including diet and exercise.

References: **1.** Devitt AA, et al. *J Diabetes Res Clin Metab* 2012;1–20. **2.** Devitt AA, et al. *Adv Biosci Biotechnol* 2013;4:1–10. **3.** Nadkarni P, et al. *Prog Mol Biol Transl Sci* 2014;121:23–65. **4.** Bodnaruc AM, et al. *Nutr Metab (Lond)* 2016;13:92. **5.** Faerch K, et al. *Diabetes* 2015;64:2513–2525. **6.** Mannucci E, et al. *J Endocrinol Invest* 2010;33:147–150. **7.** Evert AB, et al. *Diabetes Care* 2019;42:731–754. **8.** Mottalib A, et al. *Nutrients* 2016;8:443. **9.** Voss AC, et al. *Nutrition* 2008;24:990–997. **10.** Mottalib A, et al. *Nutr Diabetes* 2019;9:1:26. **11.** Chee WSS, et al. *BMJ Open Diabetes Res Care* 2017;5:e000384. **12.** Hamdy O, et al. *BMJ Open Diabetes Res Care* 2017;5:e000259. **13.** American Diabetes Association. *Diabetes Care* 2019;42:S1. **14.** Lean ME, et al. *Lancet* 2018;391:541–551.

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For more information, please visit our website at [www.abbottnutrition.com.hk/glucerna](http://www.abbottnutrition.com.hk/glucerna)

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M21-S434-L-0298

