TIR
TIME IN RANGE

Most Researched & Patented White Mulberry Leaf Extract

Turns fast sugars and carbs into slow ones

Reducose®

Did you know? | Smart watches will soon be able to measure your blood sugar fluctuations in real-time
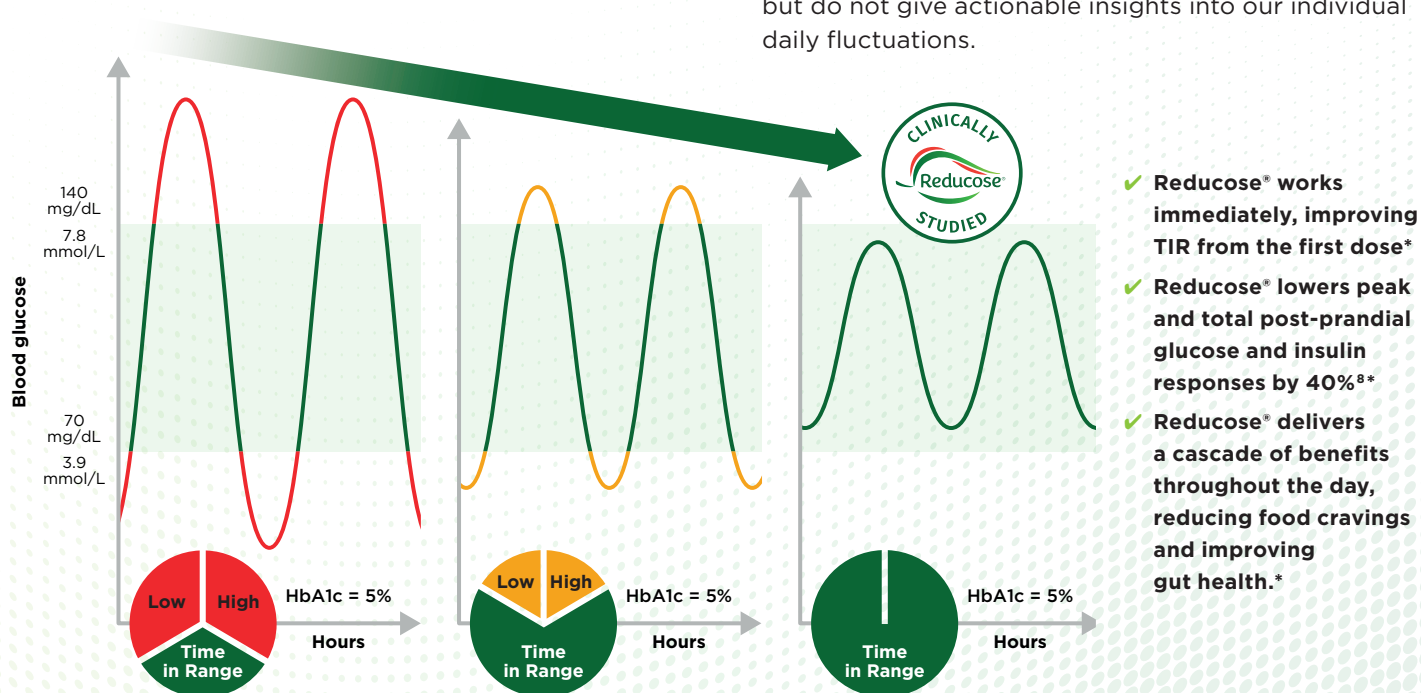
Your blood sugar level varies throughout every day based on multiple factors, primarily driven by your physical activity and diet. How it varies is unique to you, however it is advised that you should stay in the healthy range of 70-140mg/dL. It can be easy to stray outside of this range, especially if you consume high Glycemic Index (GI) foods containing sugars and other fast carbs. Fortunately, you can now track your blood sugar fluctuations in real time through Continuous Glucose Monitors (CGM) to make sure you stay in the healthy range. **The more time we spend in the healthy range - Time in Range or 'TIR' - the better for our short- and long-term health.**

Short term importance of optimized TIR:

- High blood sugar levels (>140mg/dL), after consuming a meal, aka hyperglycemia, can lead to increased anxiety, affect the ability to concentrate, increase thirst, cause frequent urination, headaches, nausea and fatigue[2,3].
- The body reacts to high blood sugar hastily by producing insulin which rapidly stores sugar in tissues, organs and fat cells. This steep fall can push people below the healthy blood sugar range[4].
- Low blood sugar levels (<40mg/dL), aka hypoglycemia, can cause irritability, shakiness and in extreme cases can lead to seizures and loss of consciousness[2].

Long term importance of optimized TIR:

- Frequent high blood sugar excursions can increase risk of heart disease, atherosclerosis, blindness, kidney disease and neuropathies[5,6]. These risks are not only for diagnosed diabetics, in healthy adults the health risk dramatically increases with time spent out of the optimal range[7].
- The DECODE study involving >25'000 participants found that cardiovascular risks increased substantially when post-meal glucose levels exceeded 140mg/dL[7], this increase in risk was the same for healthy, prediabetics and diabetic people.
- Common glucose measures such as HbA1c provide information on average glucose levels over 3-months, but do not give actionable insights into our individual daily fluctuations.

140 mg/dL
7.8 mmol/L

Blood glucose

70 mg/dL
3.9 mmol/L

Low | High
Time in Range
HbA1c = 5%
Hours

Low | High
Time in Range
HbA1c = 5%
Hours

Time in Range
HbA1c = 5%
Hours

CLINICALLY STUDIED
Reducose®

✔ **Reducose® works immediately, improving TIR from the first dose***

✔ **Reducose® lowers peak and total post-prandial glucose and insulin responses by 40%[8]***

✔ **Reducose® delivers a cascade of benefits throughout the day, reducing food cravings and improving gut health.***

All three charts show the same average blood sugar levels (HbA1c), but with very different TIR and therefore different short and long term health effects.

Reducose® can help you stay within a healthy blood glucose range*

# Take back control of your blood sugar roller coaster...increase your TIR

Most Researched & Patented White Mulberry Leaf Extract

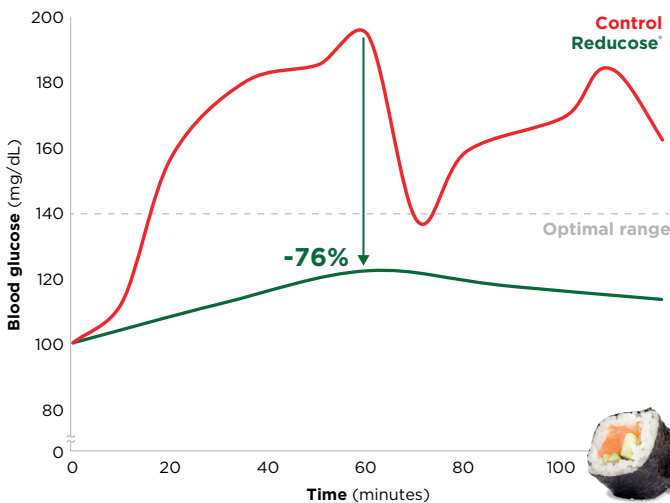## Turns fast sugars and carbs into slow ones

Reducose®

✔ Efficacious small dose backed by 10+ human clinical studies*†

✔ Works immediately: in the upper digestive system it blocks enzymes that break down sucrose and carbohydrates into glucose*†

✔ Up to 40% lower post meal blood sugar & insulin response, supporting healthy blood sugar*

✔ Reducose® helps to support a healthy microbiome and, in clinical studies, was not shown to cause an increase in gastrointestinal issues*†

✔ Consumers can feel the satiety & sustained energy benefits from the first dose*

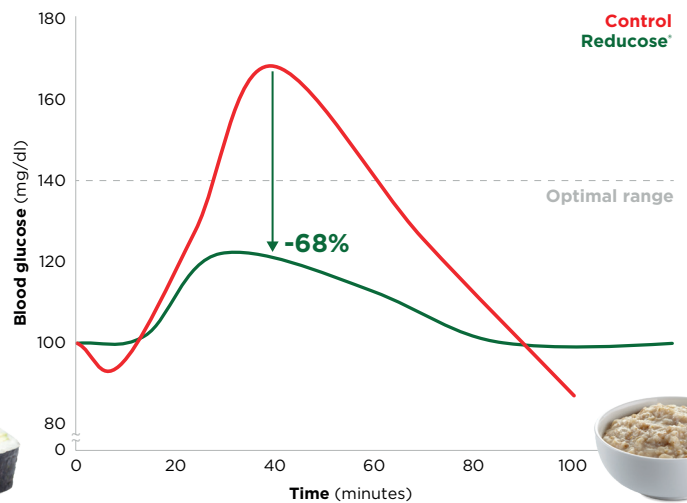### Reducose® lowers peak and total glucose & insulin response by 40%

Placebo
Reducose®

Incremental blood glucose (mg/dL)

CRASH ZONE

Time (mintues)
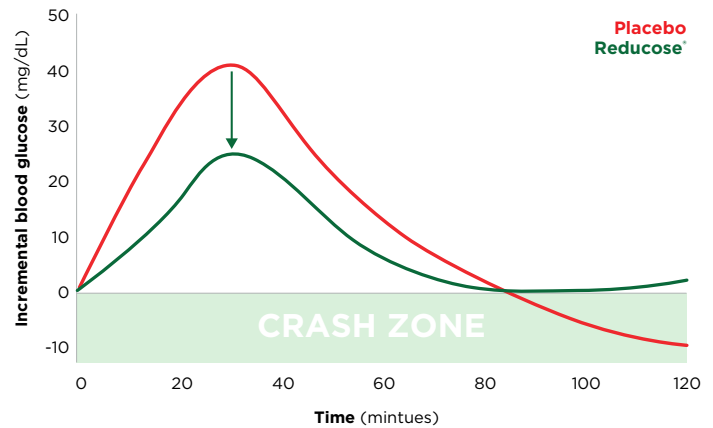
Efficacy can be measured and tracked on Continuous Glucose Monitors (CGM)†

Veggie sushi, edamame, soy sauce

Control
Reducose®

Blood glucose (mg/dL)

Optimal range

-76%

Time (minutes)

Porridge with water, chia seeds, nuts, protein powder

Control
Reducose®

Blood glucose (mg/dl)

Optimal range

-68%

Time (minutes)

CLINICALLY Reducose® STUDIED

✔ **Works immediately: you can feel and see the results**

✔ **Worry less about hidden sugars & carbs**

✔ **Feel better and balanced**

✔ **Fits simply and naturally in your life**

✔ **Take back control and love your food, again!**

For more information,
e-mail: **info@phynova.com**
or visit **Phynova.com**

† **Scientific References**: **1.** Diabetes.org **2.** McMillin JM. Blood Glucose. In: Walker HK, Hall WD, Hurst JW (eds). Clinical Methods: The History, Physical, and Laboratory Examinations. 3rd edition. Boston: Butterworths; 1990. Chapter 141. **3.** Cox DJ et al. Relationships between hyperglycemia and cognitive performance among adults with type 1 and type 2 diabetes. Diabetes Care. 2005;28(1):71-77. **4.** Hofeldt FD. Reactive hypoglycemia. Endocrinol Metab Clin North Am. 1989;18(1):185-201. **5.** Mapanga RF & Essop. Damaging effects of hyperglycemia on cardiovascular function: spotlight on glucose metabolic pathways. MF American Journal of Physiology-Heart and Circulatory Physiology 2016 310:2, H153-H173. **6.** Pop-Busui, R., Sima, A. and Stevens, M. (2006), Diabetic neuropathy and oxidative stress. Diabetes Metab. Res. Rev., 22: 257-73. **7.** The Lancet, Volume 354, Issue 9179, 617 - 621. **8.** Thondre et al. Nutrition & Metabolism, 2021; 18:41. **9.** Ding et al. PLoS One. 2023 Aug 10;18(8):e0288911. doi: 10.1371/journal.pone.0288911.

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