

PRODUCT

Isotope dilution method to distinguish and quantify erythritol.

INDICATION

Diagnostic, Biochemistry, Cardiovascular.

VALUE PROPOSITION

- Novel diagnostic test.
- Complete method for absolute quantification of erythritol.
- Attempt to limit adverse cardiovascular events due to long-term usage of erythritol.

DEVELOPMENT STAGE

Product development and feasibility scoping.

INTELLECTUAL PROPERTY

Provisional Patent Pending.

RELATED PUBLICATIONS

Witkowski, M., Nemet, I., Alamri, H., Wilcox, J., Gupta, N., Nimer, N., ... & Hazen, S. L. (2023). The artificial sweetener erythritol and cardiovascular event risk. *Nature medicine*, 29(3), 710-718.

CONTACT INFORMATION

Saqib Sachani
Associate Director Innovations
Sales & Partnership

sachans@ccf.org

216 672-1913

IDF 2022-082

Erythritol & Cardiovascular Disease Risk

Inventor: Stanley Hazen, MD, PhD

Lerner Research Institute, Cardiovascular & Metabolic Sciences

UNMET NEED

Non-nutritive sweeteners (NNS) /artificial sweeteners are currently used on a large scale to reduce free sugar/calorie intake and are considered safe by USFDA and its counterparts. Growing epidemiological evidence links NNS consumption to weight gain, insulin resistance, T2DM and CVD. Untargeted metabolomics in a large discovery cohort (1,157) linked erythritol as a top candidate associated with MACE. Erythritol, a “zero calorie natural sweetener,” is gaining popularity with a predicted doubling in its market share within the next 5 years. There is a need to determine if dietary intake of Erythritol is associated with adverse cardiovascular events.

SOLUTION/PRODUCT

- Inventors developed a stable isotope dilution method (LC/MS/MS) to distinguish erythritol from its structural isomers for absolute quantification.
- By targeted metabolomics, inventors identified erythritol to be associated with adverse cardiovascular events both in US and European patient cohorts.
- Showed that erythritol causes platelet aggregation in a concentration-dependent manner and increases thrombosis in a mouse model.

