



Microvascular Health Solutions, a BioRegenx subsidiary, announces the release of a [new peer-reviewed study](#) published in the International Journal of Molecular Sciences on the use of Endocalyx Pro™ to protect the glycocalyx on endothelial cells exposed to kidney patients' plasma.

This study, focused on kidney patients, reveals that the patented formulation of Endocalyx Pro restores the endothelial glycocalyx when exposed to toxic hemodialysis plasma. A healthy endothelial glycocalyx facilitates the exchange of nutrients, hormones, and oxygen, along with removal of waste and carbon dioxide, from all vital organs.

The study is titled "[A Dietary Supplement Containing Fucoidan Preserves Endothelial Glycocalyx through ERK/MAPK Signaling and Protects against Damage Induced by CKD Serum](#)," The authors of the study included researchers from University Hospital Münster, Maastricht University, and Dr. Hans Vink, Chief Science Officer, and Robert M. Long, CEO of Microvascular Health Solutions (MVHS). GlycoCheck™ software technology, along with other measurement modalities, were used in this study to measure the endothelial glycocalyx and was a critical tool used in this breakthrough study. MVHS is the exclusive worldwide distributor of GlycoCheck.

Patients with Chronic Kidney Disease (CKD) have a very high risk of cardiovascular disease and premature death when they need to be treated with hemodialysis to detoxify their blood when their kidneys are failing. The toxins in the blood of hemodialysis CKD patients damage their blood vessels, and many recent studies have demonstrated that the increased cardiovascular risk is associated with damage of the endothelial glycocalyx, a protective gel-like polysaccharide matrix on the luminal surface of the vascular endothelium.

"Although many studies confirm that a damaged glycocalyx is related to cardiovascular complications and is associated with poor outcomes for critically ill patients in the ICU, therapeutic options that target to protect, repair, or restore the endothelial glycocalyx are still lacking," said Dr. Vink. "It is therefore very exciting that the recently published study by Manuel Regier and Carolin Drost and our colleagues investigated the potential of the dietary supplement Endocalyx Pro to protect and restore the endothelial glycocalyx in the presence of toxic hemodialysis plasma."

Not only was Endocalyx Pro able to restore the dimension of the endothelial glycocalyx after damage by the hemodialysis plasma samples, but the study also demonstrated that Endocalyx Pro could prevent endothelial glycocalyx damage in the presence of the glycocalyx degrading enzyme heparinase, levels of which are high in the blood of hemodialysis patients.

In addition to these exciting, protective, and restorative properties of Endocalyx Pro in an acute model of endothelial glycocalyx damage by exposure to toxic hemodialysis plasma, the authors also demonstrated that adding Endocalyx Pro to the food of mice for only two weeks, resulted in significant uptake of Endocalyx Pro in the blood of these mice, which resulted in a thicker glycocalyx in mice eating the supplement as measured using the GlycoCheck patented software.

Finally, the study demonstrated that several specific cellular pathways, as well as inhibition of the enzyme heparinase, are involved in the protective and restorative effect of Endocalyx in the context of enzymatic and chronic kidney disease-induced damage of the endothelial glycocalyx.

About Endocalyx Pro and GlycoCheck

Endocalyx Pro™ was developed for MVHS by Mr. Long and Dr. Vink and is patented as a method of treating the endothelial glycocalyx in the U.S., Japan, South Korea, China, and pending in Canada and Europe. Endocalyx Pro™ is the only proprietary, patented anti-aging supplement that has been clinically shown to maintain a healthy endothelial glycocalyx, resulting in the protection of capillary function. Multiple double-blind placebo studies are underway on Endocalyx Pro's effectiveness on COVID-19, heart disease, stroke, diabetes, sepsis, and aging, as well as this new study on kidney patients' microvascular health. Those studies and their designs can be found at [Microvascular.com](https://www.microvascular.com).

GlycoCheck was used in this study, and it is an FDA registered Class 1 medical testing device. GlycoCheck measures and analyzes microvascular health, and objectively reports a MicroVascular Health Report. It has been used [in 98 peer-reviewed research studies](#) worldwide. GlycoCheck is patented in the U.S., Canada, Europe, China, and Japan. MVHS is the exclusive worldwide distributor of GlycoCheck and the upgraded complete GlycoCheck system software, including the new CapiVision™ camera, will be available in January 2023. Check our [online locator](#) for our list of test locations, expected to grow to over 1,000 locations in 2023. The new GlycoCheck™ system will shorten measurement time with the patient to about ten minutes.

To Your Good Health,

Gary Hennerberg
Chief Marketing Officer
Microvascular Health Solutions