

Therapeutic area

- **Vascular**

Product

- **Medical-grade collagen**

Capabilities

- **Biomaterials expertise**
- **R&D support**
- **Process optimization**

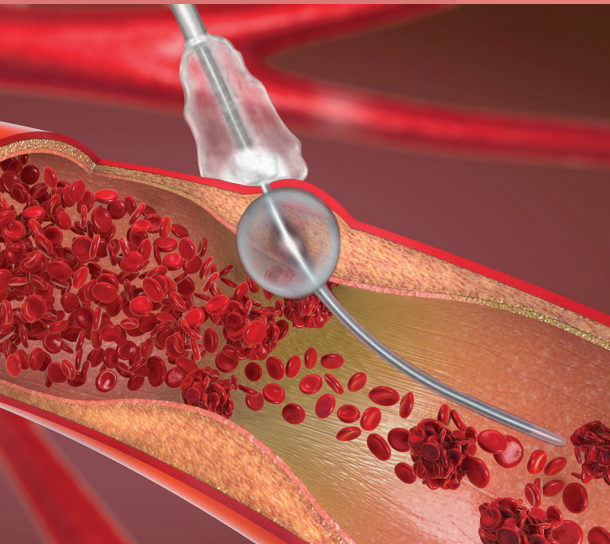


Partnering for the challenge

The Angio-Seal™ is a device that is used following a percutaneous cardiovascular procedure. The biomedical division of dsm-firmenich completely developed the device, ran all R&D phases in-house, established the FDA-required clinical trials for approval, and later commercialized the device and sold it to our partner.

Why it matters

In cardiac catheterization, common standard practice involves someone in the catheterization lab applying manual pressure for at least 15 minutes to the open femoral puncture site, monitoring for coagulation formation after the procedure. Furthermore, due to potential bleeding complications post-procedure, patients are required to be monitored in a hospital setting for at least 24 hours to ensure complete and effective puncture closure.



Our innovation

Through our revolutionary invention of the Angio-Seal™ device, cardiac catheterization procedures have forever been changed.

By constructing a device to effectively seal the arterial puncture using a bovine-derived, bioresorbable collagen plug, we can now:

- ✓ Ensure faster and more efficient hemostasis
- ✓ No longer require someone in the catheterization lab to apply pressure to the puncture site
- ✓ Discharge patients from the hospital the same day as the procedure

Our impact

Our partner continues to purchase the collagen component directly from dsm-firmenich, more than 28 years after the device was initially introduced to the market. **The Angio-Seal™ device is now being used in almost all percutaneous cardiovascular procedures, having helped more than tens of millions of patients** drastically decrease their potential for post-procedure complications and return to a better quality of life faster than ever before.¹

Reference: 1. Abando A, Hood D, Weaver F, Katz S. The use of the Angioseal device for femoral artery closure. *J Vasc Surg.* 2004;40(2):287-290. doi:10.1016/j.jvs.2004.05.007