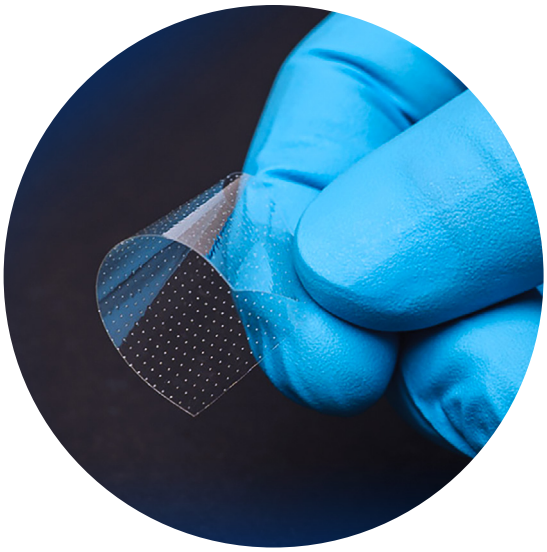
## CHECKPOINT NEUROSHIELD™

### Chitosan Membrane

CHECKPOINT NEUROSHIELD™ is a chitosan membrane indicated for the repair of peripheral nerve injuries. In preclinical studies, chitosan has been shown to support a variety of potential attributes for nerve healing.



- Supports an anti-inflammatory environment[7,8]
- Has antimicrobial properties[9]
- Inhibits fibroblast proliferation and infiltration[3]
- Is biodegradable[10,11]
- Supports Schwann cell activity[1,2,4-6]
- Fully resorbs[10]

## CHECKPOINT ACMShield™

### Soft Tissue Barrier

CHECKPOINT ACMShield™ is a dehydrated placental membrane allograft for use as a protective barrier in surgical applications. Comprised of the complete, intact layers of amniotic tissue and minimally processed to preserve the native structure of the tissue, ACMShield is an ideal protective barrier and extracellular matrix (ECM) scaffold for use in a variety of surgical applications, such as nerve and tendon repair.

- Includes the complete amnion and chorion layers, including the spongy layer, for improved handling
- Self-adherent, but fixation may be used by method of choice, if desired
- Minimal processing preserves native structure and benefits of amniotic tissue
- Rapid rehydration in situ

**1.** Freier, Thomas et al. "Controlling cell adhesion and degradation of chitosan films by N-acetylation." Biomaterials vol. 26,29 (2005): 5872-8. **2.** Haastert-Talini, K. et al. Chitosan tubes of varying degrees of acetylation for bridging peripheral nerve efects. Biomaterials 34 (2013): 9886-9904. **3.** Chatelet, C et al. "Influence of the degree of acetylation on some biological properties of chitosan films." Biomaterials vol. 22,3 (2001): 261-8. **4.** Wrobel, Sandra et al. In vitro evaluation of cell-seeded chitosan films for peripheral nerve tissue engineering. Tissue engineering. Part vol. 20,17-18 (2014): 2339-49. **5.** Yuan, Ying et al. "The interaction of Schwann cells with chitosan membranes and fibers in vitro." Biomaterials vol. 25,18 (2004): 4273-8. **6.** Carvalho, Cristiana R et al. "Investigation of cell adhesion in chitosan membranes for peripheral nerve regeneration." Materials science & engineering. C, Materials for biological applications vol. 71 (2017): 1122-1134. **7.** Vasconcelos DP, Fonseca AC, Costa M, Amaral IF, Barbosa MA, Águas AP, Barbosa JN. Macrophage polarization following chitosan implantation. Biomaterials. 2013;34(38):9952-9959. **8.** Oliveira MI, Santos SG, Oliveira MJ, Torres AL, Barbosa MA. Chitosan drives anti-inflammatory macrophage polarisationand pro-inflammatory dendritic cell stimulation. EurCell Mater. 2012 Jul 24;24:136-52; discussion 152-3.