



Dec 16, 2025

EMG fabrication

DOI

<https://dx.doi.org/10.17504/protocols.io.n2bvjekxpgk5/v1>

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Protocol Citation: Ines Rodrigues-Vaz 2025. EMG fabrication. **protocols.io**
<https://dx.doi.org/10.17504/protocols.io.n2bvjekxpgk5/v1>

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Protocol status: Working

We use this protocol and it's working



Created: December 01, 2025

Last Modified: December 16, 2025

Protocol Integer ID: 233939

Keywords: ASAPCRN, emg fabrication, emg electrodes for bulk muscle recording, emg electrode, emg, bulk muscle recording, protocol for fabrication, fabrication

Funders Acknowledgements:

Aligning Science Across Parkinson's

Grant ID: ASAP-020551

Abstract

This is the protocol for fabrication of EMG electrodes for bulk muscle recordings used for Rodrigues-Vaz and Athalye et al, 2025 and based on **Akay et al, 2006**.

Materials

- Manufacturing microscope
- Insulated braided stainless-steel wire
- Soldering wire
- Omnetics connector
- Small hypodermic needles
- Plier



EMG fabrication

- 1 Measure and cut two pieces of insulated braided stainless-wire.
- 2 Knott the two strands together and tape the strands onto the working surface. This prevents wires from unbraiding.
- 3 Strip 0.5 mm portions of insulation from each strand just below the knot so that exposed contact sites are separated by 0.5 mm. This is done under microscope using blade and forceps to avoid exposing wire.
- 4 Expose the end of the wires and insert them into hypodermic needles. Crimp needle with wires in place – the needle allows insertion of wire into the muscle.
- 5 The opposing ends will be labeled accordingly and soldered into corresponding site in a miniature omnetics connector.

Protocol references

Akay et al, 2006