

Editorial Policy Checklist

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In the interest of transparency and to help readers form their own judgements of potential bias, Nature Portfolio journals require authors to declare any competing financial and/or non-financial interest in relation to the work described in the submitted manuscript.

Competing interests declaration

- ☐ We declare that none of the authors have competing financial or non-financial interests as defined by Nature Portfolio.
- ☒ We declare that one or more of the authors have a competing interest as defined by Nature Portfolio.

Silvestro Micera holds various patents related to the present work (WO2015097623A1, EP3522773A1, WO2024105559A1). Elena Losanno, Filippo Agnesi, Solaiman Shokur, and Silvestro Micera are co-founders of Action Potential Neurotechnology Srl, a startup company with direct relations to the presented intervention. All the other authors declare that they have no competing interests.

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Data availability statement

All manuscripts must include a [data availability statement](#). This statement should provide the following information, where applicable:

- Accession codes, unique identifiers, or web links for publicly available datasets
- A description of any restrictions on data availability
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- ☐ We have provided a full data availability statement in the manuscript.

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Confirm that all relevant data are deposited into a public repository and that accession codes are provided.

- ☐ All relevant accession codes are provided ☒ Accession codes will be available before publication ☐ No data with mandated deposition

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Code availability statement

For all studies using custom code or mathematical algorithm that is deemed central to the conclusions, the manuscript must include a statement under the heading "Code availability" describing how readers can access the code, including any access restrictions. Code availability statements should be provided as a separate section after the data availability statement but before the References.

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For all data presented in a plot, chart or other visual representation confirm that:

n/a | Confirmed

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- ☐ ☒ The format shows data distribution clearly (e.g. dot plots, box-and-whisker plots)
- ☐ ☒ Box-plot elements are defined (e.g. center line, median; box limits, upper and lower quartiles; whiskers, 1.5x interquartile range; points, outliers)
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Human research participants

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- ☒ We have complied with all relevant ethical regulations and include a statement affirming this in the manuscript.

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Confirm that the manuscript states the name(s) of the board and/or institution that:

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- ☒ We have obtained informed consent from all participants and this is noted in the manuscript.

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We have followed the [REMARK reporting guidelines](#).

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I certify that all the above information is complete and correct.

Typed signature Silvestro Micera

Date 10.03.202f5