1. Record Nr. UNINA9910137207303321

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Titolo	Motor cortex microcircuits : (Frontiers in brain microcircuits series) / / topic editors: Michael Brecht, Nicholas Hatsopoulos,Takehsi Kaneko and Gordon M. G. Shepherd
Pubbl/distr/stampa	Frontiers Media SA, 2015 France : , : Frontiers Media SA, , 2014
ISBN	9782889193899
Descrizione fisica	1 online resource (133 pages) : illustrations; digital, PDF file(s)
Collana	Frontiers Research Topics
Soggetti	Neuroscience Human Anatomy & Physiology Health & Biological Sciences
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references.
Sommario/riassunto	How does the motor cortex enable mammals to generate accurate, complex, and purposeful movements? A cubic milimeter of motor cortex contains roughly 105 cells, an amazing 4 Km of axons and 0.4 Km of dendrites, somehow wired together with 109 synapses. Corticospinal neurons (a.k.a. Betz cells, upper motor neurons) are a key cell type, monosynaptically conveying the output of the cortical circuit to the spinal cord circuits and lower motor neurons. But corticospinal neurons are greatly outnumbered by all the other kinds of neurons in motor cortex, which presumably also contribute crucially to the computational operations carried out for planning, executing, and guiding actions. Determining the wiring patterns, the dynamics of signalling, and how these relate to movement at the level of specific excitatory and inhibitory cell types is critically important for a mechanistic understanding of the input-output organization of motor cortex. While there is a predictive microcircuit hypothesis that relates motor learning to the operation of the cerebellar cortex, we lack such a microcircuit understanding in motor cortex and we consider microcircuits as a central research topic in the field. This Research

Topic covers any issues relating to the microcircuit-level analysis of motor cortex. Contributions are welcomed from neuroscientists at all levels of investigation, from in vivo physiology and imaging in humans and monkeys, to rodent models, in vitro anatomy, electrophysiology, electroanatomy, cellular imaging, molecular biology, disease models, computational modelling, and more.