Dear Editor,

Please find enclosed our manuscript “A versatile clearing agent for multi modal brain imaging” by Costantini et al.

The reconstruction of comprehensive maps of neuronal connections in the central nervous system is one of the main challenges in biological science. Light scattering inside biological tissues, however, severely limits sample imaging. In this work we present a novel approach for tissue clearing allowing fast three-dimensional imaging of large (cm scale) specimens with µm-scale resolution and validating its effectiveness on neuroanatomy investigation.

We demonstrate the versatility of this method through the combination with serial two-photon tomography and light sheet microscopy. To highlight the translational applicability of this method, we also combine our clearing agent with the CLARITY immunostaining protocol to study blocks of human brain tissue. This work provides the first description of a versatile clearing method that allows a 3D characterization and quantification of neurons in large samples with different techniques providing a useful approach for the study of meso-scale neuroanatomy.

The work has elicited high interest in a multidisciplinary audience receiving an exceptional response at the last Society of Neuroscience Meeting (Washington DC, November 2014). We believe that this work will attract readers of Scientific Reports not only for its applications in neuroscience but also for further study in other areas of research. The method, in fact, empowers high-throughput microscopy in large samples and, therefore, can find numerous applications both in basic biological research and in translational medicine.

We are looking forward to hearing from you.

Best regards,

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