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🌐 Visualizing lower urinary tract afferent projections in the lumbosacral spinal cord in rats

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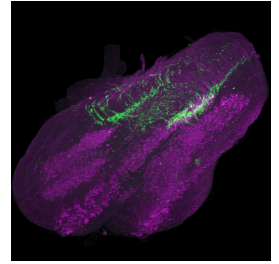
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Protocol status: Working

We use this collection and it's working

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Keywords: neuroscience, retrograde tracing, immunohistochemistry, clearing, iDISCO, 3D reconstruction, neuroanatomy, visualizing lower urinary tract afferent projection, visualization of lower urinary tract afferent, lower urinary tract afferent projection, immunohistochemical labelling of lower urinary tract afferent, quantitation of lower urinary tract afferent, lower urinary tract afferent, 3d reconstruction of lumbosacral spinal cord section, lumbosacral spinal cord section, urinary tract organ, lumbosacral spinal cord, 3d reconstruction of spinal cord, clearing of intact spinal cord, intact spinal cord, sections in tissuemaker, anatomical study, spinal cord, immunohistochemical labelling

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Abstract

This collection includes the protocols required to map the lower urinary tract afferent projections to the lumbosacral spinal cord of male and female Sprague-Dawley rats. Afferents can be visualized using 3D reconstruction of alternating sections in TissueMaker (MBF Bioscience), or through the immunolabelling and clearing method, iDISCO. The following protocols are performed, regardless of endpoint:

STAGE 1: Use of cholera toxin subunit B to label neural projections to lower urinary tract organs.

STAGE 2: Intracardiac perfusion with fixative for anatomical studies.

The next set of protocols pertain to the 3D reconstruction of spinal cord from alternating sections.

STAGE 3: Immunohistochemical labelling of lower urinary tract afferents in spinal cord.

STAGE 4: Quantitation of lower urinary tract afferents in 3D reconstruction of lumbosacral spinal cord sections

For the visualization of lower urinary tract afferents in the intact spinal cord, skip Stages 3 and 4, and instead use Stage 5:

STAGE 5: Immunolabelling and clearing of intact spinal cord for visualization of lower urinary tract afferents

Troubleshooting

Files

 SEARCH

Protocol



NAME

🔗 Use of cholera toxin subunit B to label neural projections to lower urinary tract organs

VERSION 1

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🔗 Intracardiac perfusion with fixative for anatomical studies

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🔗 Immunohistochemical labelling of lower urinary tract afferents in spinal cord

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NAME

Quantitation of lower urinary tract afferents in 3D reconstruction of lumbosacral spinal cord sections

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NAME

Immunolabelling and clearing of intact spinal cord for visualization of lower urinary tract afferents

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