Video Article

Erratum: Isolation of Adult Spinal Cord Nuclei for Massively Parallel Singlenucleus RNA Sequencing

URL: https://www.jove.com/video/6282

DOI: doi:10.3791/6282

Keywords:

Date Published: 11/20/2018

Citation: Erratum: Isolation of Adult Spinal Cord Nuclei for Massively Parallel Single-nucleus RNA Sequencing. J. Vis. Exp. (141), e6282,

doi:10.3791/6282 (2018).

Abstract

An erratum was issued for: Isolation of Adult Spinal Cord Nuclei for Massively Parallel Single-nucleus RNA Sequencing. The Protocol section was updated.

Step 3.1 was updated from:

Place the lumbar spinal cord in a pre-chilled Dounce homogenizer and add 500 mL pre-chilled detergent lysis buffer.

to

Place the lumbar spinal cord in a pre-chilled Dounce homogenizer and add 500 µL pre-chilled detergent lysis buffer.

Step 3.6 was updated from:

Pass an additional 1 mL low sucrose buffer over the 40 mm strainer, bringing the final volume to 3 mL of the low sucrose buffer and 500 mL of the lysis buffer.

to:

Pass an additional 1 mL low sucrose buffer over the 40 mm strainer, bringing the final volume to 3 mL of the low sucrose buffer and 500 μL of the lysis buffer.

Step 5.5 was updated from:

Once the centrifugation is complete, immediately decant the supernatant in a flicking motion.

NOTE: A residual volume (less than 400 mL) of sucrose buffer can be discarded if desired to produce a lower volume and cleaner final sample, but this residual volume does contain nuclei and can be preserved to maximize nuclei yield

to:

Once the centrifugation is complete, immediately decant the supernatant in a flicking motion.

NOTE: A residual volume (less than 400 µL) of sucrose buffer can be discarded if desired to produce a lower volume and cleaner final sample, but this residual volume does contain nuclei and can be preserved to maximize nuclei yield

Step 5.6 was updated from:

Using 100 mL - 1 mL of resuspension solution, resuspend the nuclei remaining on the wall. Avoid the myelin 'frown' that remains with the detergent-based preparation.

to:

Using 100 µL - 1 mL of resuspension solution, resuspend the nuclei remaining on the wall. Avoid the myelin 'frown' that remains with the detergent-based preparation.

Steps 6.1.1 - 6.1.4 were updated from:

- 1. Adjust nuclei to a final concentration of 225 nuclei per mL.
- 2. Prepare barcoded beads at a concentration of 250 beads per mL.
- $3. \ \ \, \text{Prepare the lysis buffer with } 0.7\% \text{ sarkosyl}.$
- 4. Adjust the flow rates to 35 mL per min for beads, 35 mL per min for nuclei, and 200 mL per min for oil.

to:

- Adjust nuclei to a final concentration of 225 nuclei per μL.
- Prepare barcoded beads at a concentration of 250 beads per μL.
- 3. Prepare the lysis buffer with 0.7% sarkosyl.

4. Adjust the flow rates to 35 μL per min for beads, 35 μL per min for nuclei, and 200 μL per min for oil.

Protocol

An erratum was issued for: Isolation of Adult Spinal Cord Nuclei for Massively Parallel Single-nucleus RNA Sequencing. The Protocol section was updated.

Step 3.1 was updated from:

Place the lumbar spinal cord in a pre-chilled Dounce homogenizer and add 500 mL pre-chilled detergent lysis buffer.

to

Place the lumbar spinal cord in a pre-chilled Dounce homogenizer and add 500 µL pre-chilled detergent lysis buffer.

Step 3.6 was updated from:

Pass an additional 1 mL low sucrose buffer over the 40 mm strainer, bringing the final volume to 3 mL of the low sucrose buffer and 500 mL of the lysis buffer.

to:

Pass an additional 1 mL low sucrose buffer over the 40 mm strainer, bringing the final volume to 3 mL of the low sucrose buffer and 500 μ L of the lysis buffer.

Step 5.5 was updated from:

Once the centrifugation is complete, immediately decant the supernatant in a flicking motion.

NOTE: A residual volume (less than 400 mL) of sucrose buffer can be discarded if desired to produce a lower volume and cleaner final sample, but this residual volume does contain nuclei and can be preserved to maximize nuclei yield

to:

Once the centrifugation is complete, immediately decant the supernatant in a flicking motion.

NOTE: A residual volume (less than 400 μ L) of sucrose buffer can be discarded if desired to produce a lower volume and cleaner final sample, but this residual volume does contain nuclei and can be preserved to maximize nuclei yield

Step 5.6 was updated from:

Using 100 mL - 1 mL of resuspension solution, resuspend the nuclei remaining on the wall. Avoid the myelin 'frown' that remains with the detergent-based preparation.

to:

Using 100 µL - 1 mL of resuspension solution, resuspend the nuclei remaining on the wall. Avoid the myelin 'frown' that remains with the detergent-based preparation.

Steps 6.1.1 - 6.1.4 were updated from:

- 1. Adjust nuclei to a final concentration of 225 nuclei per mL.
- 2. Prepare barcoded beads at a concentration of 250 beads per mL.
- 3. Prepare the lysis buffer with 0.7% sarkosyl.
- 4. Adjust the flow rates to 35 mL per min for beads, 35 mL per min for nuclei, and 200 mL per min for oil.

to:

- 1. Adjust nuclei to a final concentration of 225 nuclei per µL.
- 2. Prepare barcoded beads at a concentration of 250 beads per μL .
- 3. Prepare the lysis buffer with 0.7% sarkosyl.
- 4. Adjust the flow rates to 35 μL per min for beads, 35 μL per min for nuclei, and 200 μL per min for oil.

Disclosures

No conflicts of interest declared.