BRAINTREE SCIENTIFIC, INC.
LAB RESEARCH PRODUCTS

# mNSET™ Device 60010 Instructions

**Intended Use**
This device is used for non-surgical transcervical transfer of mouse embryos into female recipient mice. For research purposes only. **Not intended for human or animal diagnostic or therapeutic uses.**

OTHER USES: The mNSET 60010 device can also be used for artificial insemination (AI) or other material/pathogen transfer into recipient female mice. If you are interested in the AI or *Chlamydia* protocol, please send your request to info@paratechs.com.

**Handling**
Devices are single use only. Discard after use.

**Prior to mNSET Embryo Transfer**
For the production of mouse embryos for transfer and pseudopregnant females to serve as recipients, standard transgenic methodologies are used.[1] Matings are set up with male and female mice as in standard transgenic procedures. Female donors can be superovulated if desired. Embryos are incubated in EmbryoMax® KSOM media (Millipore#MR-106-D) or desired culture media. Embryos should be 3.5 days post-coitum (3.5 dpc) on the day of mNSET transfer; recipient female mice should be 2.5 dpc on the day of mNSET transfer.

**Embryo Transfer Procedure**

1. Place a 15µl drop of KSOM onto the lid of a 100 mm petri dish (Falcon 1029, or similar.)

2. Load 12 – 20 blastocysts into the KSOM drop using a standard embryo handling pipet. (Note: optimal number of embryos to transfer will vary depending upon mouse strain and manipulations embryos have received.)

3. Place the mNSET device onto a P-2 Pipetman that has been set to 1.8µl. (Recommended pipettes are the Pipette Rainin Classic PR2, 0.1-2µl or Gilson Pipetman P2, 0.2-2µl.)

4. Press Pipetman plunger to first stop, lower tip into medium and slowly pull embryos into the tip of the mNSET device. Remove mNSET device tip from the medium.



Your Distributor is:
Braintree Scientific, Inc.
PO Box 850498, Braintree, MA 02185
781-917-9526
Email: Info@braintreesci.com
Web: www.braintreesci.com

(mNSET 60010 Instructions continued)

5. Carefully set pipette to 2.0µl to create a small air bubble at mNSET tip to help ensure embryos stay inside device tip during insertion into the mouse. Gently lay pipette with loaded tip aside (near cage) for use in step #9. Avoid jostling the mNSET tip.

6. Place the unanesthetized recipient female on top of a cage with a wire rack, allowing the mouse to "grab" the cage bar surface. Grasp the base of the tail using thumb and forefinger and angle the tail upward while lightly pressing the base of the tail with the opposite edge of the hand. (See image below.)

7. Gently place small speculum into mouse's vagina.

8. Optional: Remove small speculum and replace with the large speculum. If desired, use an adequate light source and visualize the cervix.

9. While holding the female mouse with one hand as described in step #6, carefully pick up the pipette and gently insert the mNSET device tip into the speculum and through the cervix. Once mNSET device hub contacts speculum, expel embryos by pressing plunger to the first stop.

10. Gently remove mNSET device without releasing pipette plunger and remove speculum. Return mouse to cage. No post-procedure monitoring is required.

**References**

[1]Behringer R, Gertsenstein M, Nagy KV, Nagy A. 2014. Manipulating the Mouse Embryo: A Laboratory Manual, Fourth Edition. Cold Spring Harbor (NY): Cold Spring Harbor Laboratory Press.

**This product is intended for research purposes only.**

**CAUTION: Not intended for human or animal diagnostic or therapeutic uses.**

Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product.

## PARATECHS COROPORATION LIMITED WARRANTY

ParaTechs warrants that, at the time of shipment, the Product will conform to the specifications that accompany the Product. This warranty limits ParaTechs' liability to replacement of the Product. **PARATECHS MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THE PRODUCT; INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR THAT THE PRODUCT DOES NOT INFRINGE ANY PROPRIETARY RIGHTS OF ANY THIRD PARTY.**

**United States Patent 9,615,903**

Revised: April 2021



Your Distributor is:
Braintree Scientific, Inc.
PO Box 850498, Braintree, MA 02185
781-917-9526
Email: Info@braintreesci.com
Web: www.braintreesci.com