

# PRODUCT SPECIFICATIONS SHEET:

## StemRNA™ 3<sup>rd</sup> Gen Reprogramming Kit



<b>Product Name</b>	StemRNA™ 3 <sup>rd</sup> Gen Reprogramming Kit
<b>Description</b>	<p>The Stemgent StemRNA 3<sup>rd</sup> Gen Reprogramming Kit contains three essential component reagents for non-integrating reprogramming that have been functionally validated to support the generation of induced pluripotent stem (iPS) cell colonies from fibroblasts, blood-outgrowth endothelial progenitor cells (EPCs), and urine derived progenitor cells (UPCs).</p> <p><i>OKSMNL NM-RNA</i> - A mixture of six mRNAs encoding for the reprogramming factors Oct4, Sox2, Klf4, cMyc, Nanog, and Lin28.</p> <p><i>EKB NM-RNA</i> - A necessary addition to the reprogramming medium to reduce the cellular interferon response to exogenous mRNAs. The combined use of EKB NM-RNA with the Stemgent StemRNA-NM kit prevents apoptosis and supports productive RNA reprogramming.</p> <p><i>NM-microRNAs</i> - Enhance the reproducibility and efficiency of RNA-based reprogramming methods using EPCs, UDCs, or fibroblasts.</p>
<b>Catalog Number</b>	00-0076
<b>Size</b>	1 Kit
<b>Kit Contents</b>	1 vial each of: <ul style="list-style-type: none"><li>• OKSMNL NM-RNA (Part No. 05-0040), 30 µg at 100 µg/mL</li><li>• EKB NM-RNA (Part No. 05-0041), 22 µg at 100 µg/mL</li><li>• NM-microRNAs (Part No. 05-0042), 15 µg at 285 µg/mL</li></ul>
<b>Quality Control</b>	Individual mRNAs are tested for size and integrity. The Stemgent StemRNA 3 <sup>rd</sup> Gen Reprogramming Kit is functionally tested for successful RNA-based



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reprogramming of human umbilical vein endothelial cells (HUVECs), adult fibroblasts, urine-derived progenitor cells (UPCs) and blood-derived endothelial progenitor cells (EPCs). Complete reprogramming of iPS cell colonies is confirmed by expression of pluripotency markers and appropriate colony morphology. All components are sterile and have tested negative for mycoplasma.

### Recommended Usage

For use with associated StemRNA 3<sup>rd</sup> Gen Reprogramming Kit protocols for the generation of iPS cells.

### References

1. Yoshida Y; Takahashi K; Okita K; Ishisaka T; Yamanaka S. "Hypoxia enhances the generation of induced pluripotent stem cells." *Cell Stem Cell* 5:237-41 (2009).
2. Poleganov MA; Eminli S; Beisert T; Herz S; Moon JI; Goldmann J; Beyer A; Heck R; Burkhardt I; Barea Roldan D; Türeci Ö; Yi K; Hamilton B; Sahin U. Efficient Reprogramming of Human Fibroblasts and Blood-Derived Endothelial Progenitor Cells Using Non modified RNA for Reprogramming and Immune Evasion. *Human Gene Therapy* 26:751 (2015)

### Licensing Information

This product is intended for academic or non-profit research use only.

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### iPS Academia Japan, Inc.

Definitions:

1. SG: Stemgent, Inc.



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2. iPS-AJ: iPS Academica Japan, Inc.
3. User: The person or entity who purchased Products(s) from SG or its authorized distributor.
4. Product: The iPS cells (iPSCs) or the product comprising one of more components to produce iPSCs, which SG provides with or sells, and are claimed in the patents and patents applications mentioned below.
5. Pluripotent Cells: iPSCs provided from SG, iPSCs regenerated or derived by User with the Product provided by SG.
6. Progeny: Cells derived by User from the Pluripotent Cells which retain the ability to self-replicate, retain the ability to differentiate into cell types from all three germ layers and remain in an undifferentiated state whether or not said cells are genetically modified and further including cell lines cloned from such cells so long as the cells retain the ability to self-replicate, retain the ability to differentiate into cell types from all three germ layers and remain in an undifferentiated state.
7. Modification: Cells which are created by Use or created through the use of the Pluripotent Cells or Progeny, but which (i) do not differentiate into cells types from all three germ layers and (ii) are in a partially or terminally differentiated state.
8. Materials: Pluripotent Cells, Progeny and Modification.
9. Commercial Use: Any activity by a User consisting of at least one of the following activities: (i) use of the Pluripotent Cells or Progeny, for manufacture of related products distributed and/or sold to a third party including but not limited to culture medium and equipment, (ii) use of the Pluripotent Cells, Progeny or Modifications to provide a

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2. The purchase of the Product conveys to User the limited, non-exclusive and non-transferable right (without the right to sell,



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