



March 30, 2020

**Notice Regarding Start of Sales of Large-Scale Liquid Nitrogen Program Freezers  
for Cell Cryopreservation Bags**

Taiyo Nippon Sanso Corporation (“TNSC”) hereby announces that it will start sales of the CM-100 large-scale liquid nitrogen program freezer for cell cryopreservation bags from April 2020.

**1. Background**

TNSC, the only liquid nitrogen type cryopreservation container manufacturer in Japan, has commercialized many related devices up until now. Approximately 300 units of one of those, a small liquid nitrogen type program freezer<sup>1</sup> used by many universities, government and corporate research institutes to prefreeze<sup>2</sup> cells, has been delivered in Japan.

Liquid nitrogen type program freezers can prefreeze large volumes of cells at an appropriate cooling rate because they have higher cooling performance and broader temperature control ranges than electrical program freezers. Therefore, it also can contribute to saving on capital investment and space.

TNSC started selling the large-scale liquid nitrogen program freezer called “CM-100” for the industrial stage of regenerative medicine.

**2. Features of CM-100**

Capable of handling a maximum of 100 cell cryopreservation bags per treatment compared to 20 for the existing model.

<Features>

- Can treat up to 100 cell cryopreservation bags (25 cc) at once (over four times greater capacity than the existing model)
- Save on capital investment compared to electrical program freezers
- Ensures a stable inner temperature of the device
- Ensures traceability of the cooling rate (-1°C/min, -10°C reductions through quenching, etc.)
- Can use 50 cc bags by changing component parts (racks, etc.)

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<sup>1</sup> Program freezers: Freezing equipment that can control cooling rates and is used to prefreeze cells that are to be frozen.

<sup>2</sup> Prefreeze: Before cryopreservation, cells should be brought from room temperature to a set temperature (ex.—80°C) to reduce damage.

Chart 1: Comparison between the Liquid Nitrogen Program Freezer and Existing Model

Model	CM-100 (New product)	CM-21BL (Small type)
External dimensions (mm)	1,010 (width) x 810 (depth) x 925 (height)	535 (width) x 530 (depth) x 450 (height)
Controlled range (°C)	Room temperature to -80	Room temperature to -80
Dimensions of cooling space (mm)	600 (width) x 300 (depth) x 600 (height)	300 (width) x 245 (depth) x 310 (height)
Cryopreservation bag capacity	100	20

### 3. Future Plans

Sales started from April 2020.

CM-100 is expected to increase demand in the manufacture processes of regenerative medicines. By adding it to product lineup, TNSC will contribute to faster commercialization of regenerative medicines.



Fig. 1 25 cc cell cryopreservation bag



Fig. 2 CM-100 large-scale liquid nitrogen program freezer

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