

# CARD HyperOva<sup>®</sup>

Center for  
Animal  
Resources and  
Development

Enhanced Superovulation Reagent for mouse

## Great for IVF.

Use CARD HyperOva<sup>®</sup> to obtain more ovulated oocytes.

Live IVF pups from **A SINGLE** C57BL/6J female following superovulation with CARD HyperOva<sup>®</sup>



### Product Outline

CARD HyperOva<sup>®</sup> (Japanese Patent No. 5927588) is an ultra-superovulation reagent that induces ovulation at higher efficiency when compared with the conventional superovulation induction method (PMSG-hCG method). Following the conventional method, we were only able to obtain approximately 20 ova per mouse (C57BL/6J) on average; using CARD HyperOva<sup>®</sup>, however, we can obtain as many as 3-4 times more ova.

### Effects

#### I. Reduction in Experimental Animal Use (Contribution to 3Rs)

Using CARD HyperOva<sup>®</sup> enables us to reduce the number of female mice used for ovum collection by 1/3-1/4.

#### II. Optimization of Genetically Modified mouse Creation and Preservation

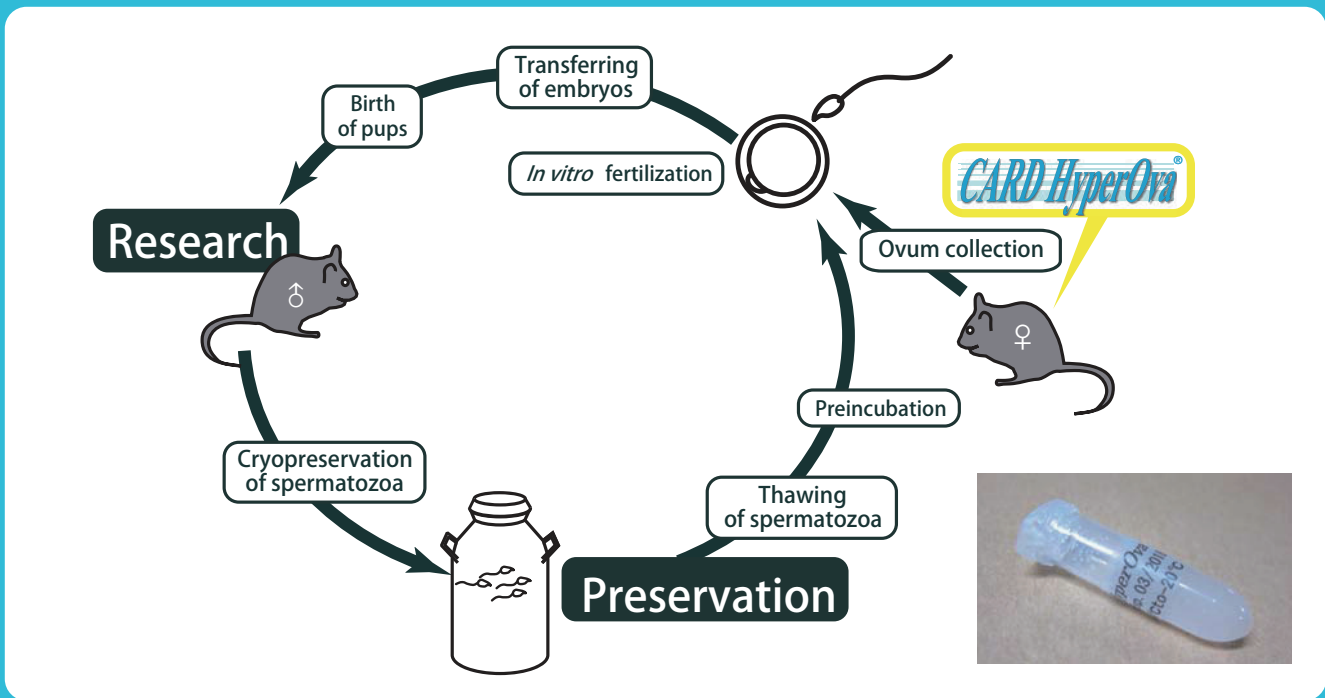
More ova can be obtained from less female mice using CARD HyperOva<sup>®</sup> than following the conventional method, which will facilitate *in vitro* fertilization and embryo transfer.

#### III. Application to Valuable Genetically modified Mice

Using CARD HyperOva<sup>®</sup> on your valuable genetically modified mice enables you to obtain a lot of ova from small number of females, thus enabling the large-scale preparation of embryos.

| No. | Strains    | Method  | Number of oocyte donors | Number of inseminated oocytes | Average number of ovulated oocytes/female | No. of fertilized eggs | Fertilization rate (%) |
|-----|------------|---------|-------------------------|-------------------------------|---|------------------------|------------------------|
| 1   | C57BL/6J   | eCG     | 10                      | 277                           | 27.7 ± 5.4                                | 267                    | 96.4 ± 3.2             |
|     |            | Product | 10                      | 1,072                         | 107.2 ± 22.7                              | 963                    | 89.8 ± 3.7             |
| 2   | BALB/c ByJ | eCG     | 10                      | 293                           | 29.3 ± 8.9                                | 213                    | 73.4 ± 11.3            |
|     |            | Product | 10                      | 903                           | 90.3 ± 14.5                               | 680                    | 76.4 ± 9.0             |
| 3   | C3H/HeJ    | eCG     | 10                      | 286                           | 28.6 ± 8.4                                | 251                    | 87.8 ± 22.6            |
|     |            | Product | 10                      | 520                           | 52.0 ± 18.1                               | 446                    | 85.8 ± 15.5            |
| 4   | DBA/2J     | eCG     | 10                      | 225                           | 22.5 ± 7.8                                | 194                    | 86.2 ± 11.0            |
|     |            | Product | 10                      | 688                           | 68.8 ± 13.6                               | 592                    | 86.0 ± 4.5             |
| 5   | FVB/NJ     | eCG     | 10                      | 168                           | 16.8 ± 3.3                                | 159                    | 94.6 ± 6.7             |
|     |            | Product | 10                      | 256                           | 25.6 ± 5.9                                | 239                    | 93.3 ± 6.6             |
| 6   | CD1        | eCG     | 10                      | 202                           | 20.2 ± 8.0                                | 146                    | 72.3 ± 16.0            |
|     |            | Product | 10                      | 337                           | 33.7 ± 9.9                                | 269                    | 79.8 ± 19.6            |

- 7.5 IU of CARD HyperOva<sup>®</sup> or PMSG was injected to four weeks old female mice, then 7.5 IU of hCG was administered 48 hours later. Thereafter all ova obtained 17 hours after the hCG injection were collected.
- The *in vitro* fertilization rate is defined as the number of 2-cell embryos divided by the total number of ova (mean ± SD).
- Data cited from a paper published by Prof. Naoki Nakagata and Toru Takeo (Center for Animal Resources and development, Kumamoto University).

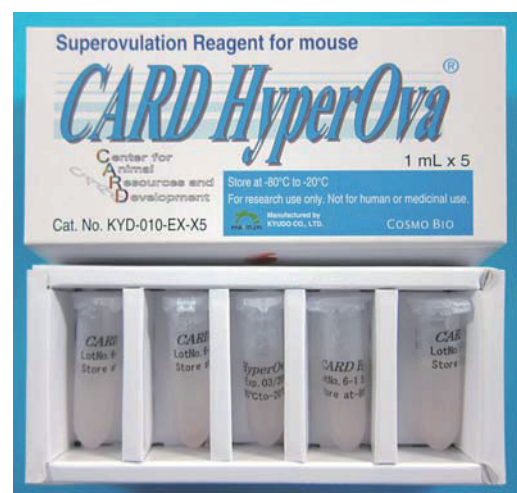


**Superovulation Procedure:**

1. Inject 0.1-0.2 mL CARD HyperOva® i.p. into a 26-30 days old female mouse (birthdate = 0). Injections are usually performed during the light cycle, between 17:00 and 18:00.
2. At 48 hours after CARD HyperOva® recipients are injected i.p. with 7.5 IU human chorionic gonadotropin (hCG) (not included).

**References:**

1. Takeo T., Nakagata N. 2015. Superovulation using the combined administration of inhibin antiserum and equine chorionic gonadotropin increases the number of ovulated oocytes in C57BL/6 female mice. *PLoS ONE* 10(5): e0128330. doi:10.1371/journal.pone.0128330
2. Takeo T., Nakagata N. 2016. Immunotherapy using inhibin antiserum enhanced the efficacy of equine chorionic gonadotropin on superovulation in major inbred and outbred mice strains. *Theriogenol.* doi:10.1016/j.theriogenology.2016.04.076



| Description    | Cat. No.      | Quantity | Storage |
|----------------|---------------|----------|---------|
| CARD HyperOva® | KYD-010-EX    | 1 mL     | -20°C   |
|                | KYD-010-EX-X5 | 5x1 mL   | -20°C   |

Shipping: Dry Ice

