CARD HyperOva ®

Center for Animal Resources and Development

Enhanced Superovulation Reagent for mouse

NEW! Also available in convenient freeze-dried format for refrigerated storage!!

Great for IVF.

Use CARD HyperOva® to obtain more ovulated oocytes.

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

Product Outline

CARD HyperOva® (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®, 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® 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® than following the conventional method, which will facilitate in vitro fertilization and embryo transfer.
Ⅲ. Application to Valuable Genetically modified Mice
   Using CARD HyperOva® 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® 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).

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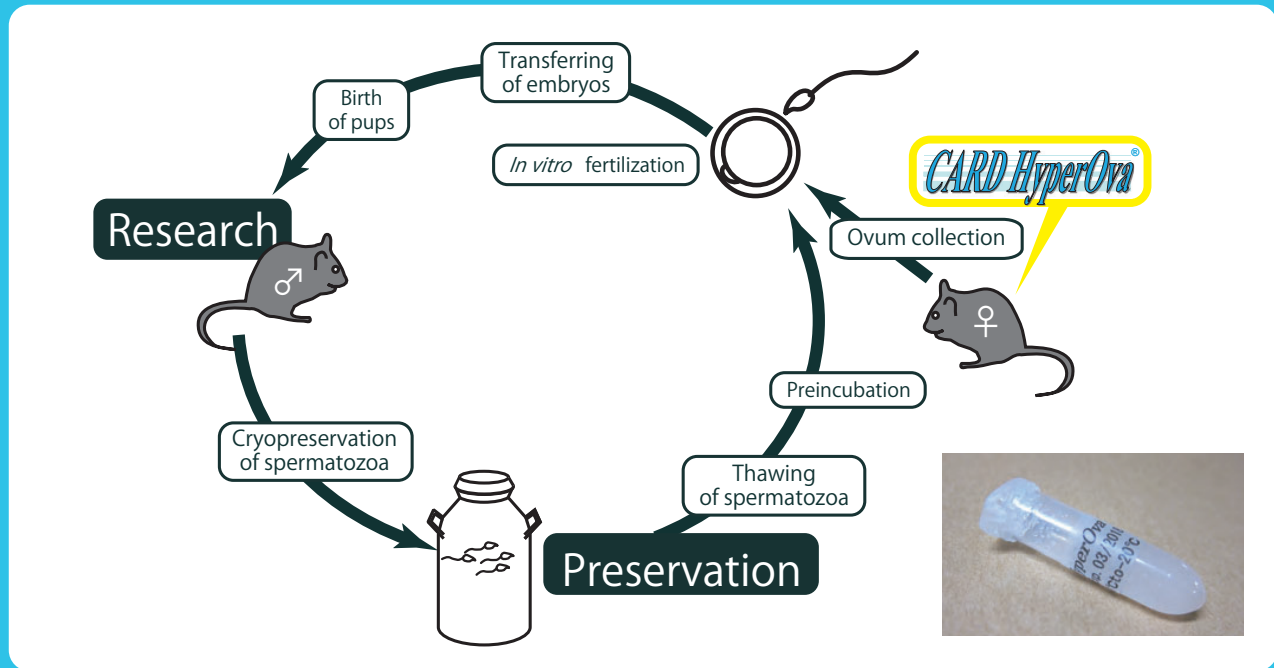
Superovulation Procedure:

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℃
	KYD-010-EX-X5	5x1 mL	-20℃

Description	Cat. No.	Quantity	Storage
CARD HyperOva® FD	KYD-015-FD-EX	1 x 2 mL	4℃
	KYD-015-FD-2-X5	5 x2 mL	4℃