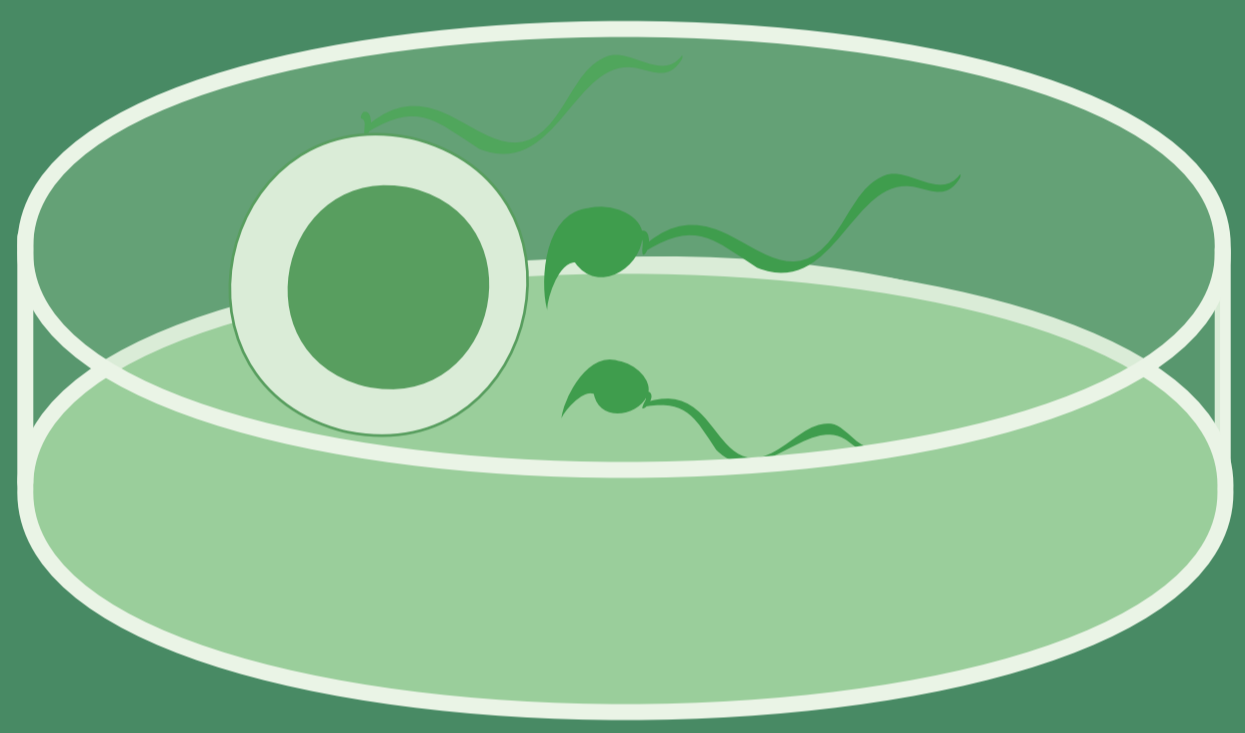
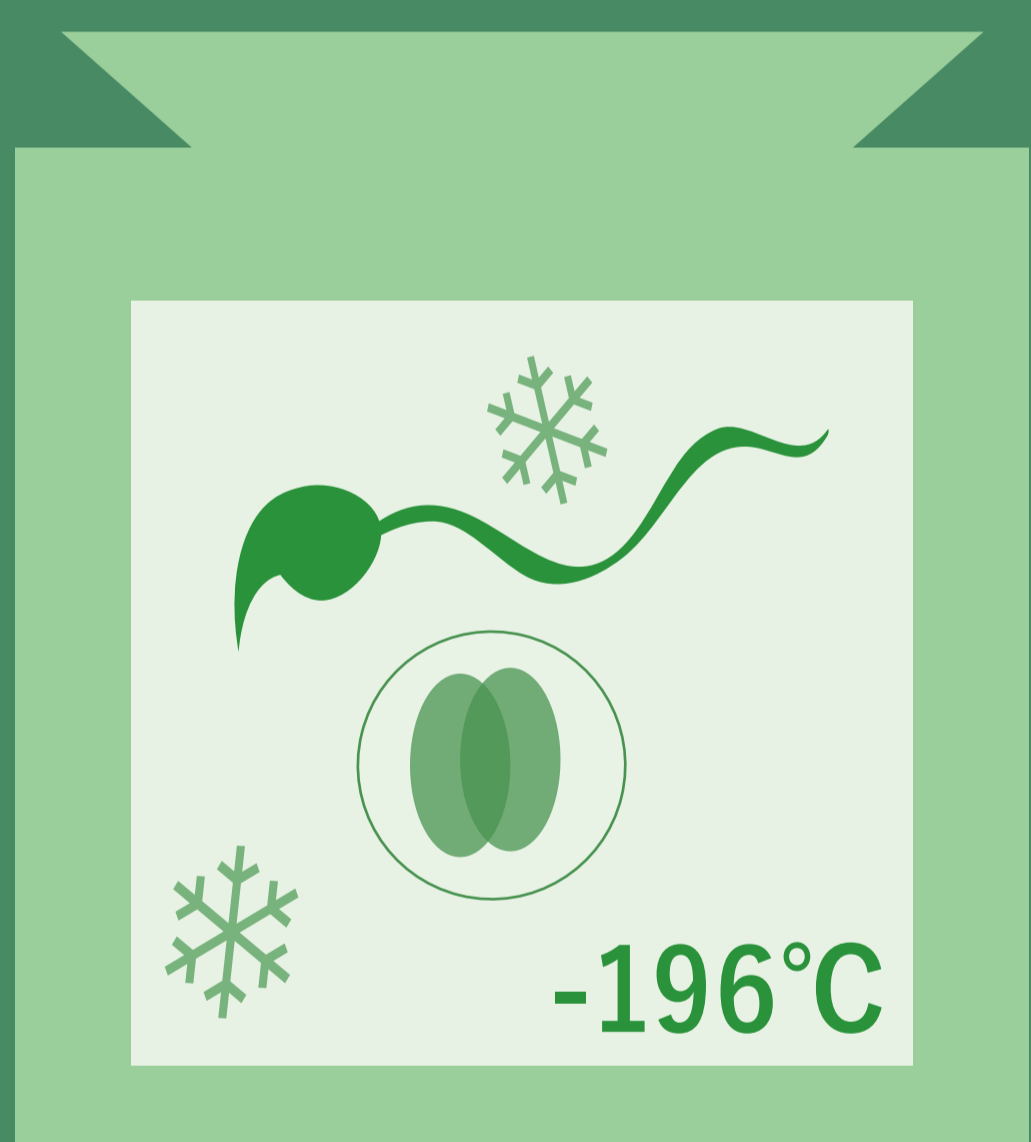


KYUDO

“best reagents” for “best research”



IVF

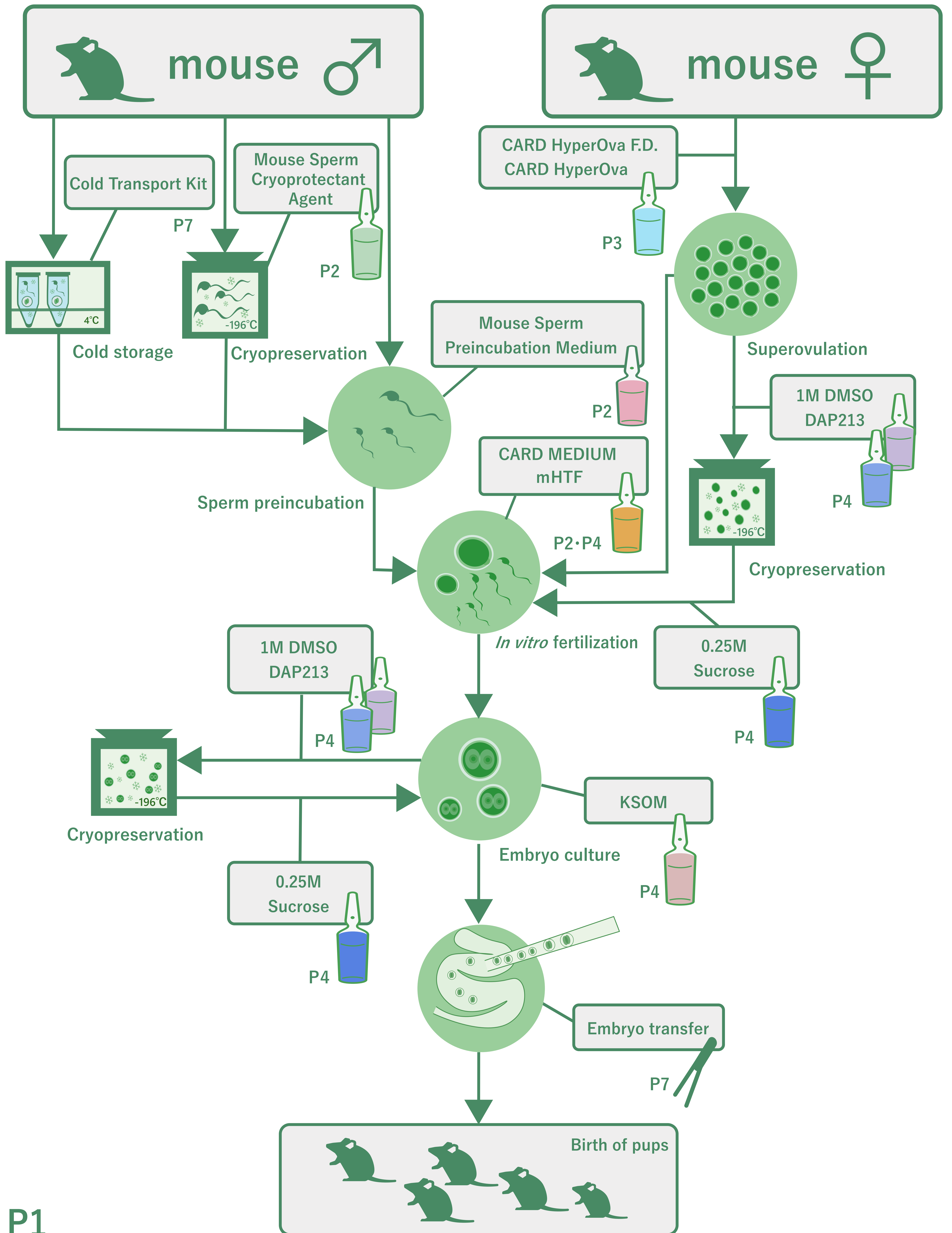


Cryopreservation



Embryo Transfer

Cutting-edge technology brought to you

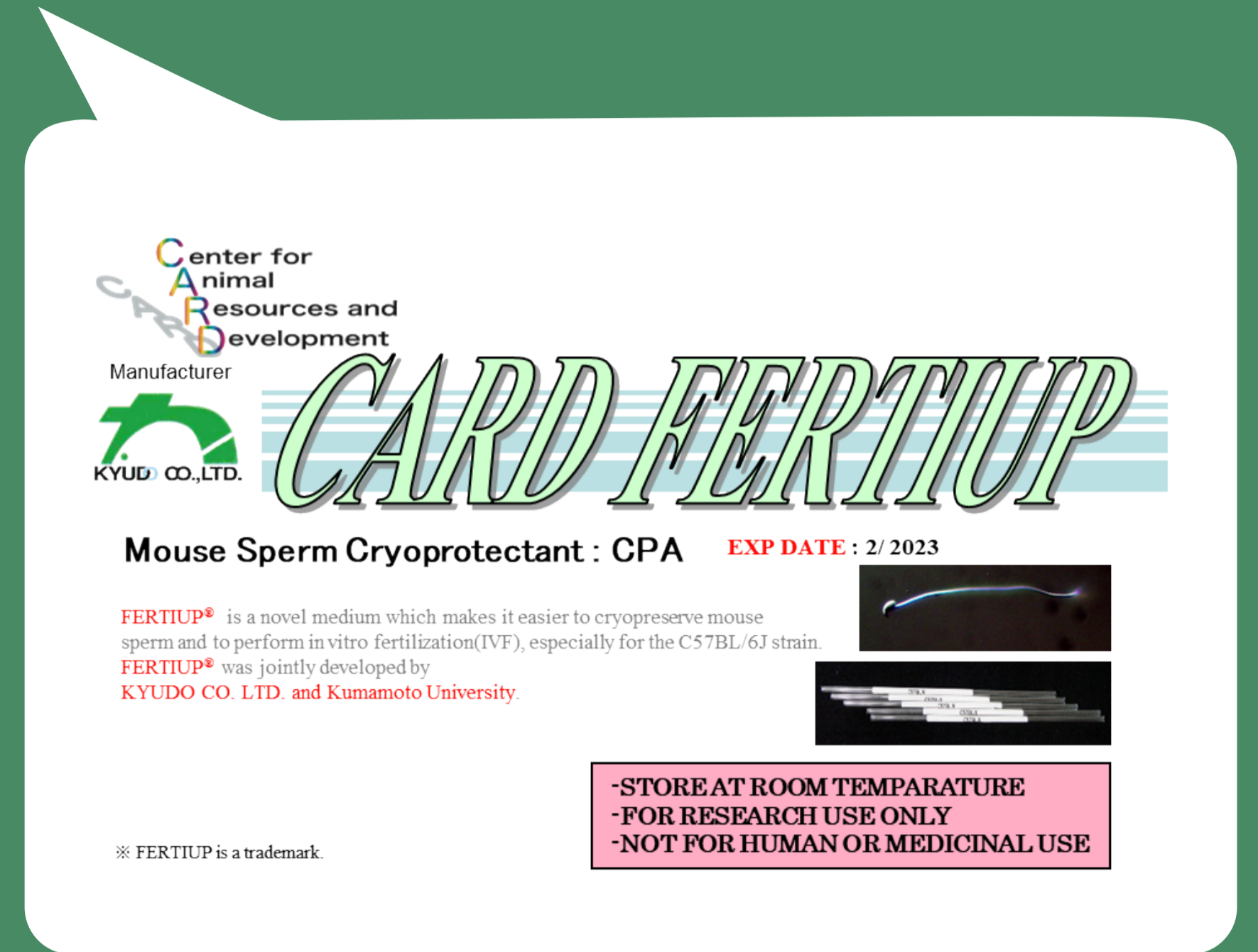


Reagents for Reproductive Technology of Mouse

CARD FERTIUP Mouse Sperm Cryoprotectant Agent

CARD FERTIUP Mouse Sperm Cryoprotectant Agent mitigates freezing damage during sperm cryopreservation and improves *in vitro* fertilization rates using frozen-thawed sperm in numerous mouse strains, including the C57BL/6 strain. This agent also facilitates a massive reduction in costs associated with the upkeep of strains in comparison to the cost of live animal maintenance. (1)

*Reference(p9):No.1

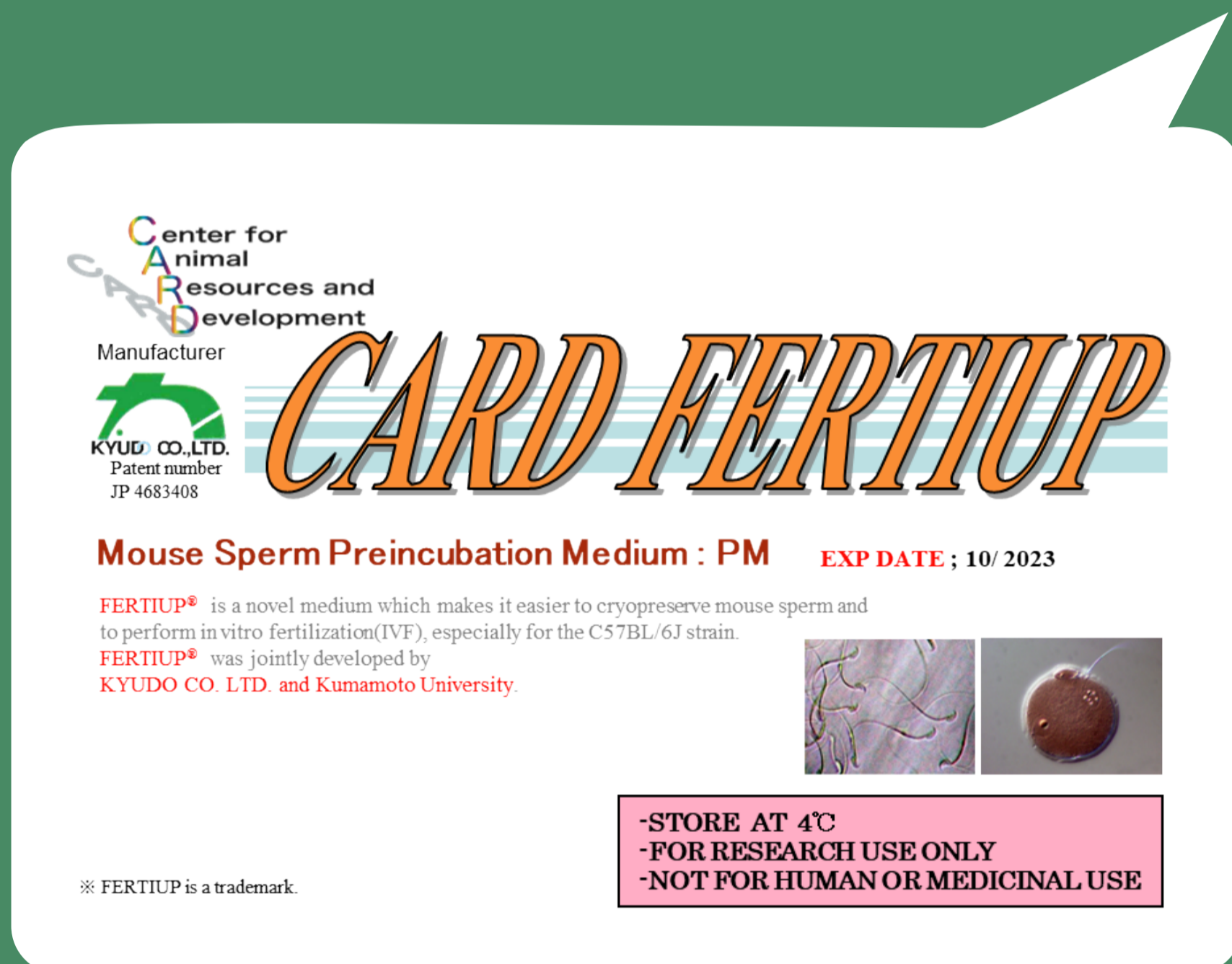


CARD FERTIUP Mouse Sperm Preincubation Medium

CARD FERTIUP Mouse Sperm Preincubation Medium promotes capacitation of mouse sperm and improves *in vitro* fertilization rates using fresh, frozen-thawed and cold stored mouse sperm. (2)

*Reference(p9):No.2

*Patent(JP:4683408)

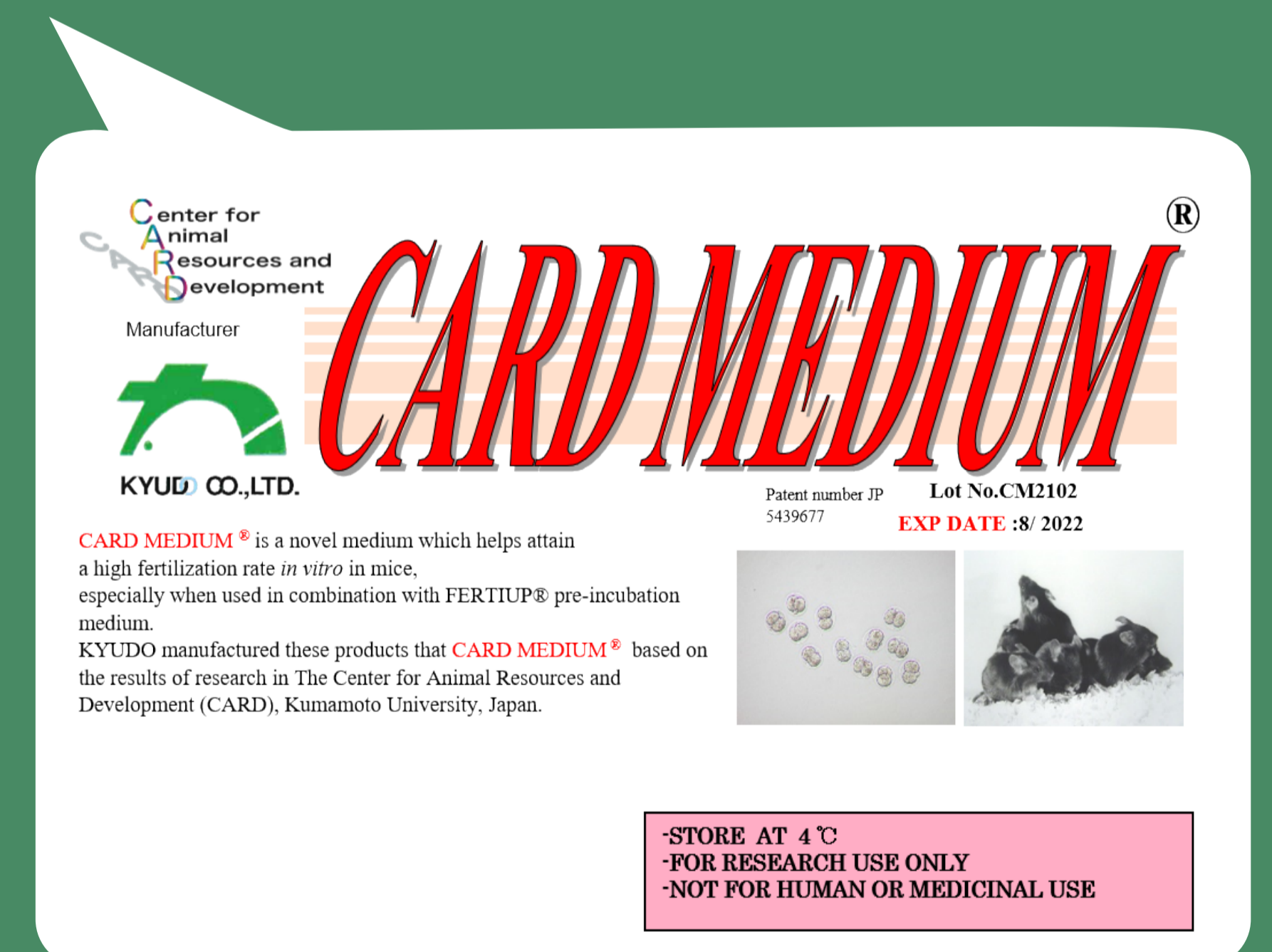


CARD MEDIUM Mouse Fertilization Medium

CARD MEDIUM High-Performance Mouse IVF Medium brings about a massive improvement in the *in vitro* fertilization rates of numerous mouse strains, including the C57LB/6 and 129 strains. In fact, using CARD MEDIUM alongside CARD FERTIUP Mouse Sperm Preincubation Medium can yield *in vitro* fertilization rates of over 80% for frozen-thawed C57BL/6 mouse sperm. (3)

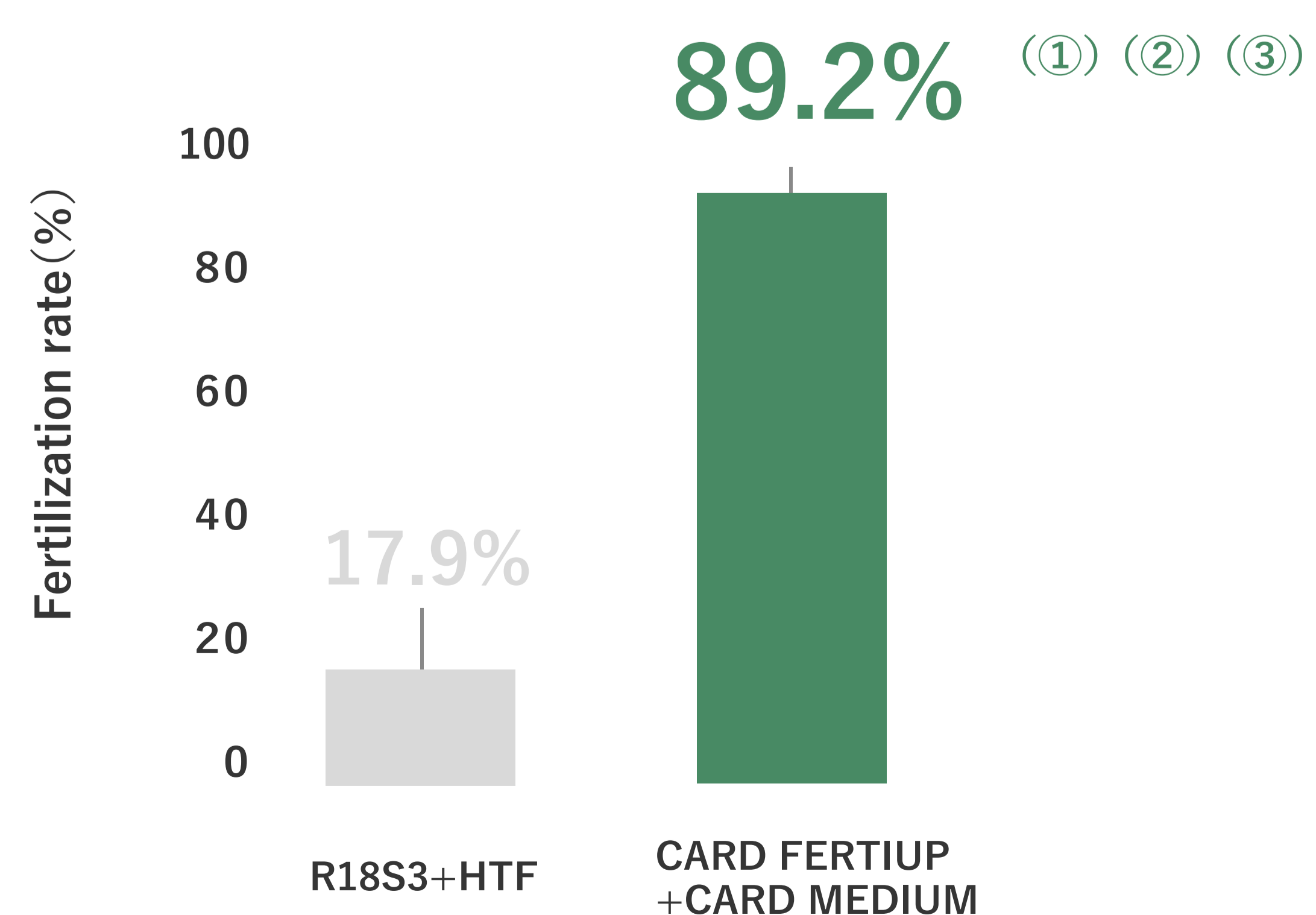
*Reference(p9):No.3

*Patent (JP:5439677|US:9,994,868 B2)



With CARD MEDIUM, we can even obtain fertilization rates of over 80% using frozen-thawed C57BL/6 sperm!

Fertilization rate of frozen-thawed C57BL/6 sperm

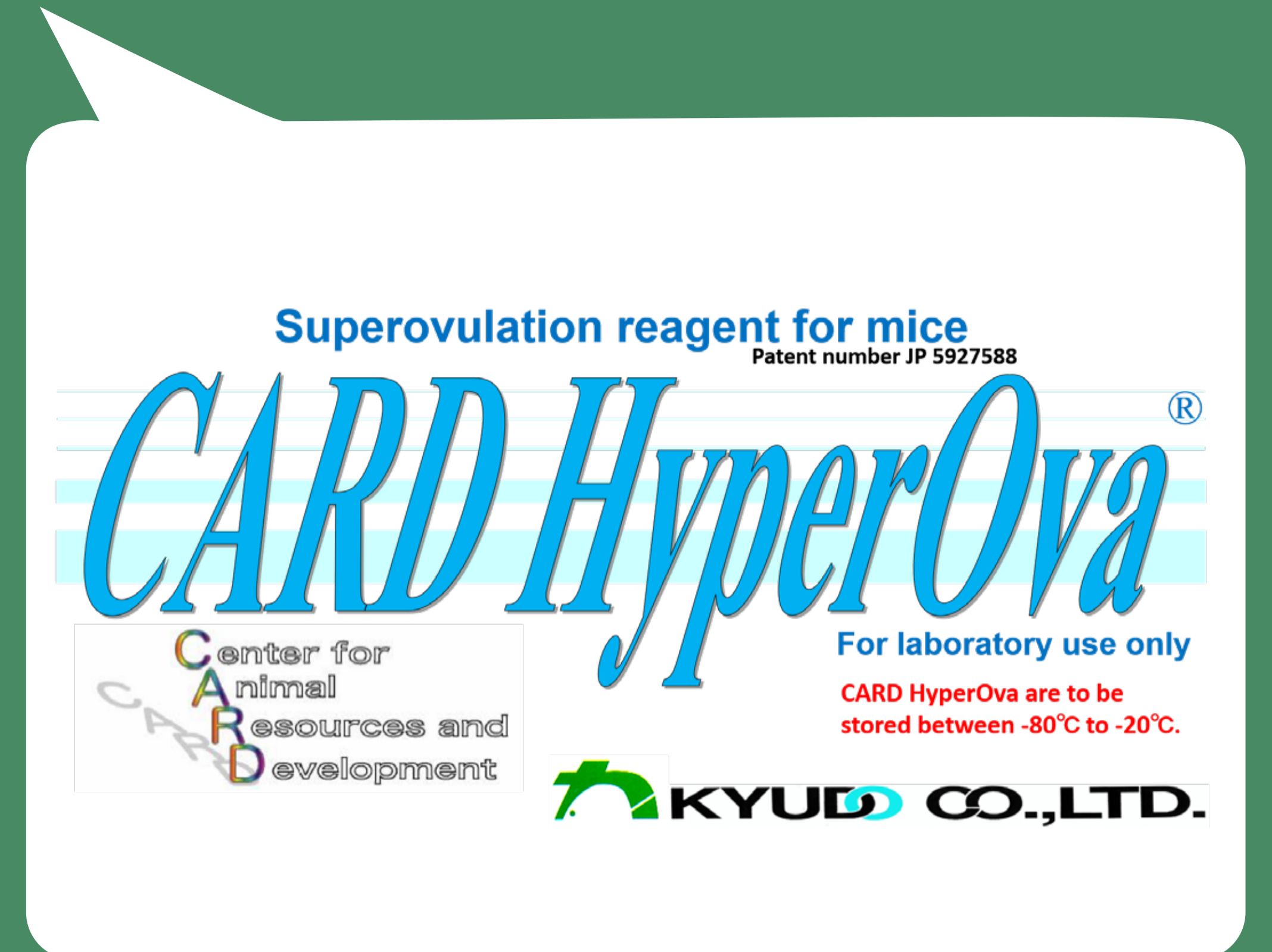


CARD HyperOva Superovulation Reagent for Mouse

CARD HyperOva Mouse Superovulation Reagent enables us to obtain a much larger number of oocytes from females of numerous mouse strains than via conventional superovulation methods. CARD HyperOva may bring about a threefold or even fourfold reduction in the required number of donor mice. This contributes to a reduction in the number of animals per experiment, thereby upholding the 3 Rs Principle⁽⁴⁾

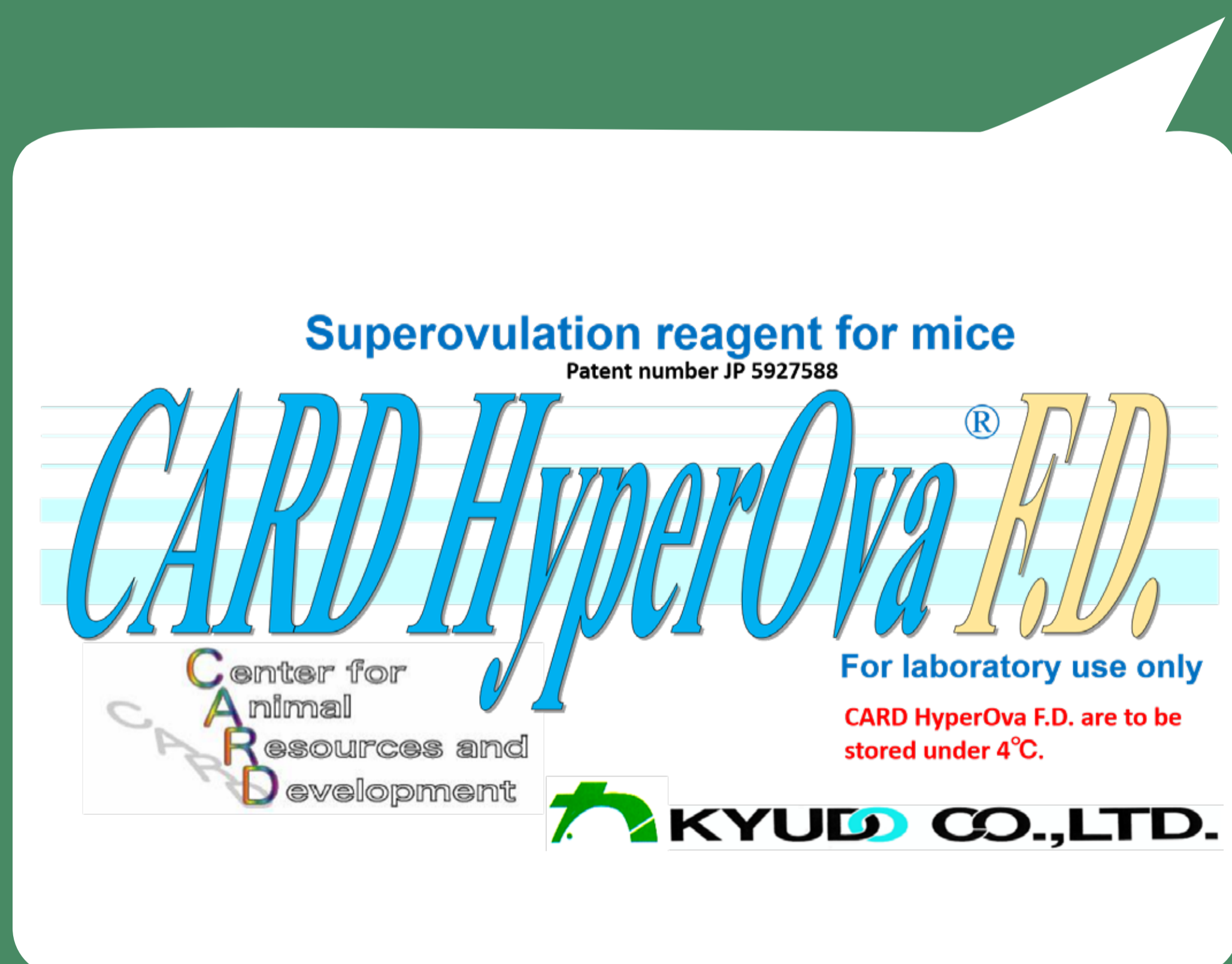
*Reference(p9) : No.4・No.5

*Patent(JP:5927588 | US:10,500,275,B2 | EU:3260535)

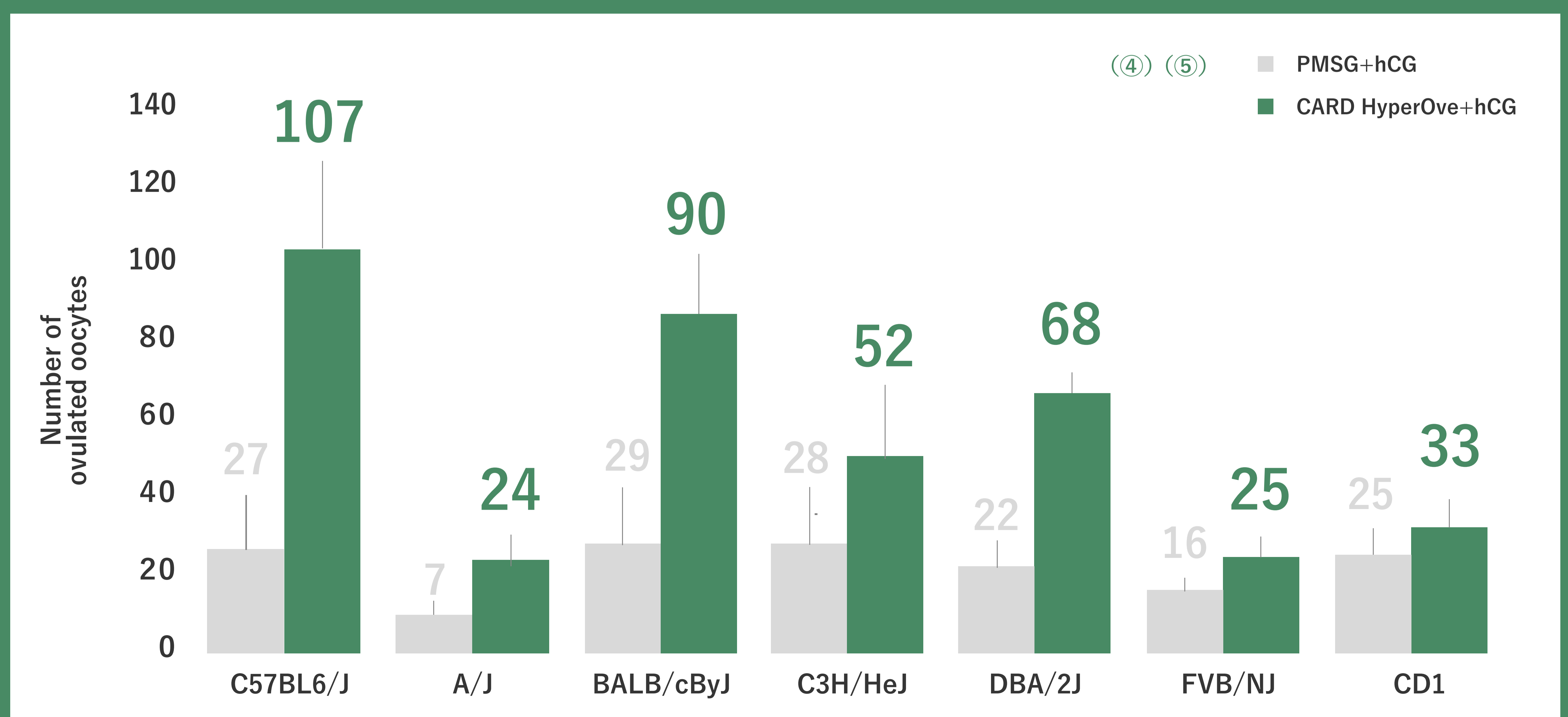


CARD HyperOvaF.D. Superovulation Reagent for Mouse

CARD HyperOva F.D. retains the high performance of CARD HyperOva while also offering significantly improved storage stability through freeze drying. After preparing the reagent, cryopreserve it at a temperature at -20°C or below, and then take as much of the reagent as you need, whenever you need it.⁽⁵⁾



Using CARD HyperOva, we can obtain three to four times more oocytes than conventional superovulation methods in C57BL/6 mice!



CARD mHTF medium

CARD mHTF Medium is an *in vitro* fertilization medium. This medium enables superior *in vitro* fertilization rates and a high yield of 2-cell embryos.



CARD KSOM

CARD KSOM is a culture medium for use on embryos obtained via *in vitro* fertilization. CARD KSOM contributes to superior development rates from 2-cell embryos to blastocysts.



CARD 1M DMSO

CARD 1M DMSO is cryopreservation reagent utilized in simple vitrification. It is used in the cryopreservation of embryos and oocytes.



CARD DAP213

CARD DAP213 is cryopreservation reagent utilized in simple vitrification. It is used in the cryopreservation of embryos and oocytes.

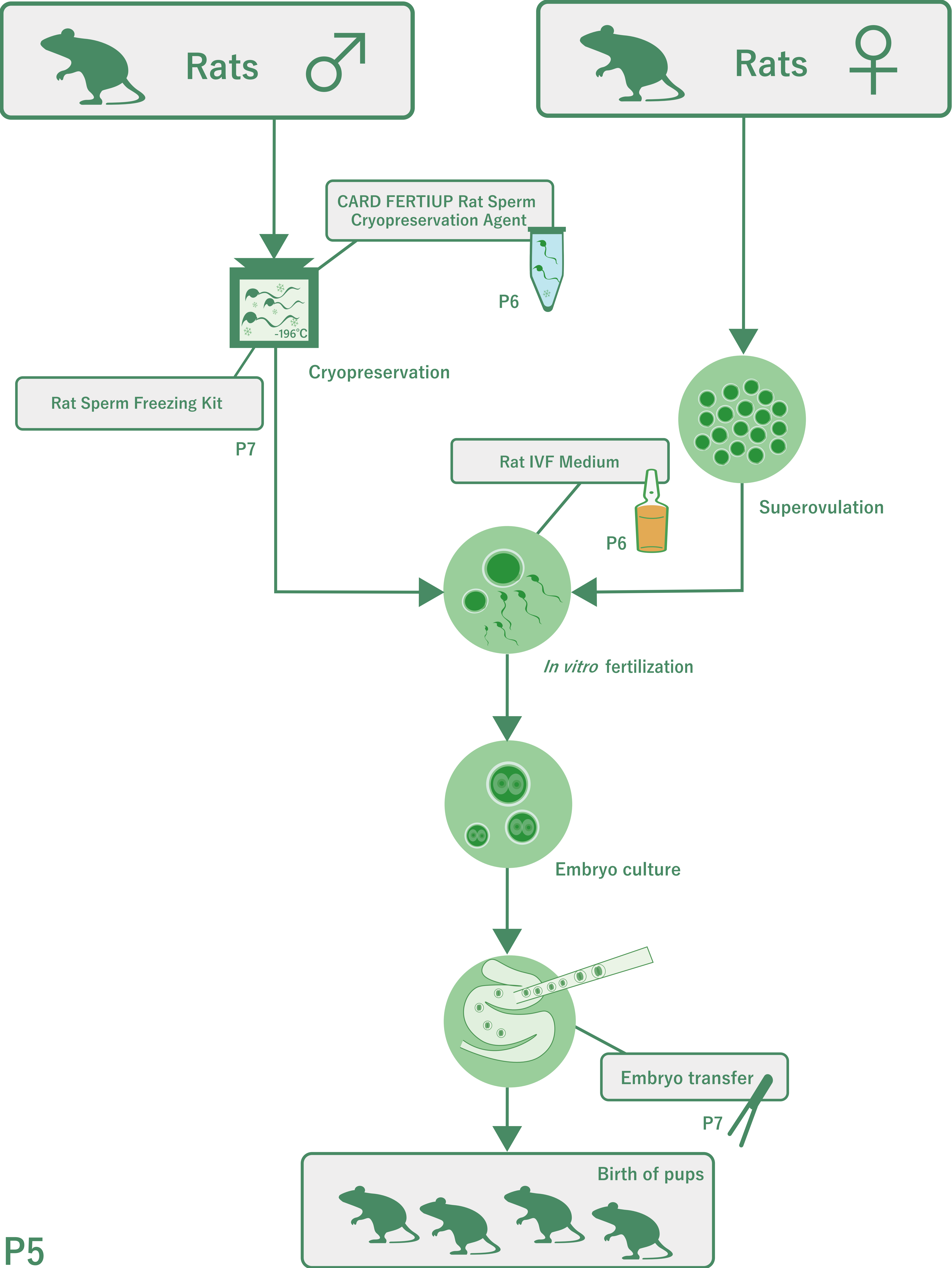


CARD 0.25M Sucrose

CARD 0.25M Sucrose is used to warm vitrified embryos and oocytes via simple vitrification.



Breaking new boundaries - Our new technology



— Reagents for Reproductive Technology of Rats

CARD FERTIUP Rat Sperm Cryoprotectant Agent

CARD FERTIUP Rat Sperm Cryopreservation Agent is the world's first practical cryopreservation agent for use with rat sperm. Previously rat sperm cryopreservation was an extremely difficult task, but CARD FERTIUP Rat Cryopreservation Agent can now make it possible to cryopreserve rat sperm in an efficient manner. What's more, once thawed the rat sperm maintain a high motility and can be used in *in vitro* fertilization.

*Reference(p9):No.6

CARD FERTIUP
Rat Sperm Cryopreservation Agent

◆ Store at -20°C or below.
◆ For laboratory use only. Not to be used for diagnosis or treatment of illnesses.
◆ This product improves the efficacy of rat sperm cryopreservation. After thawing, rat sperm can be used for *in vitro* fertilization.

[Manufacturer]
Center for Animal Resource and Development

For use on rats only.

CARD Rat IVF Medium

CARD Rat IVF Medium is a novel medium developed specifically for use in rat *in vitro* fertilization. It offers superior *in vitro* fertilization rates, particularly when using frozen-thawed rat sperm.

CARD Reproductive Engineering Media

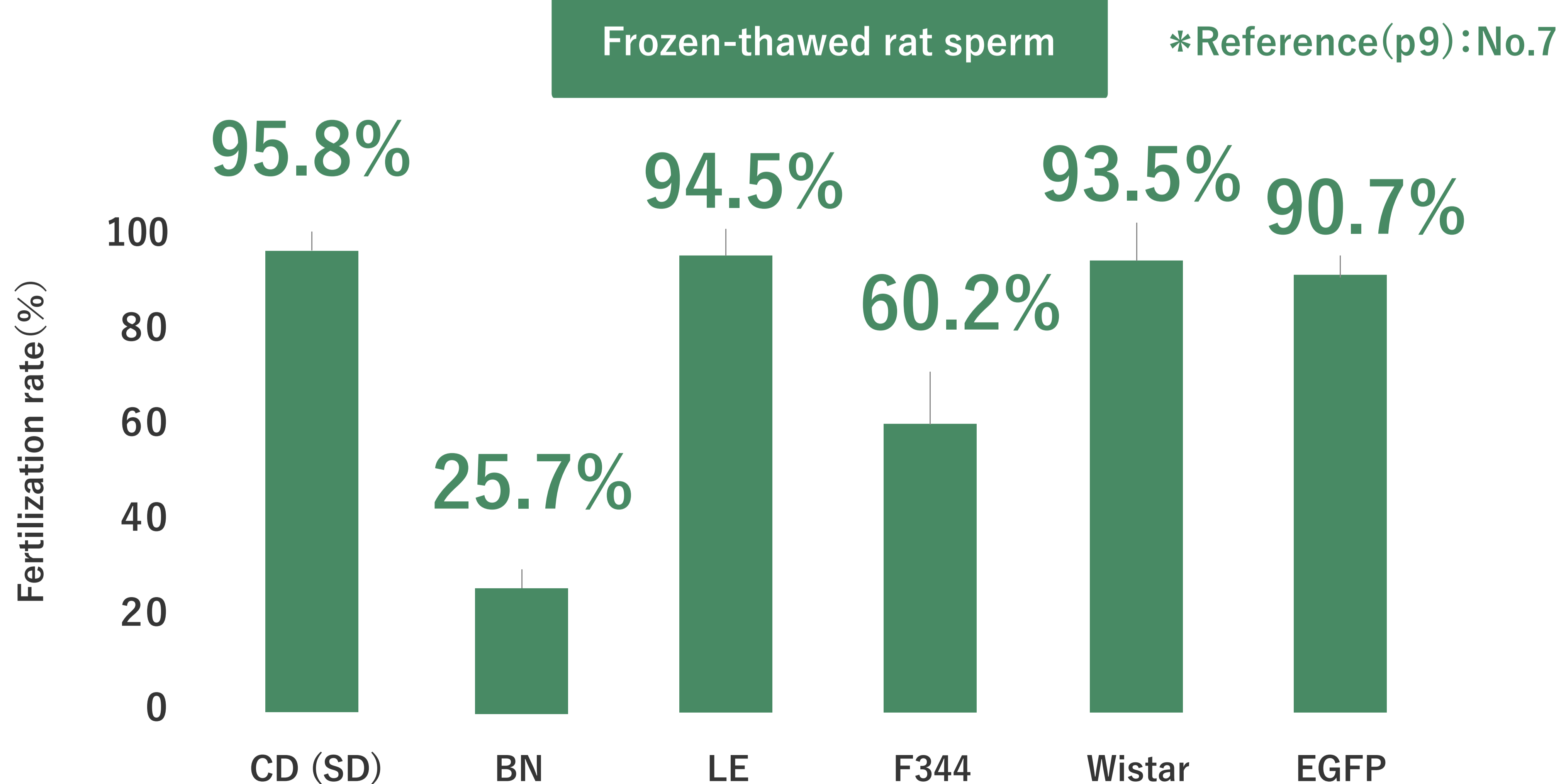
CARD Rat IVF medium
— A medium for rat *in vitro* fertilization

◆ Stored at 4°C or below.
◆ For laboratory use only. Not to be used for diagnosis or treatment of illnesses. Contains no ingredients harmful to humans. Do not drink or apply to the human body.
◆ This product is an IVF medium for use in rat reproductive engineering.

[Manufacturer]
Center for Animal Resource and Development
KYUDO CO.,LTD

For use on rats only.

We can obtain high fertilization rates using frozen-thawed sperm in several rats strains!



— Reproductive Technology Tools for Mouse/Rat

CARD Cold Transport Kit

The CARD Cold Transport Kit provides everything you need to safely and cheaply transport mouse cauda epididymides and 2-cell embryos at refrigerated temperatures. The transported cauda epididymides and embryos can be used at the destination institution to produce live mice via reproductive engineering techniques.



Usage:

Transport of mouse cauda epididymides and 2-cell embryos at refrigerated temperatures.

Cold storage retention period:

Max. 72 hours

(when using our cold storage solution for cauda epididymides)

Kit contents:

A cold storage box (A), cold packs (B; 4 x large, 2 x small), a Thermos bottle (C), paper boxes and packing material (D).



Kit contents:

A Styrofoam box (A), sperm cryopreservation straw holding support (foam float (B) and plate (C))

CARD Rat Sperm Freezing Kit

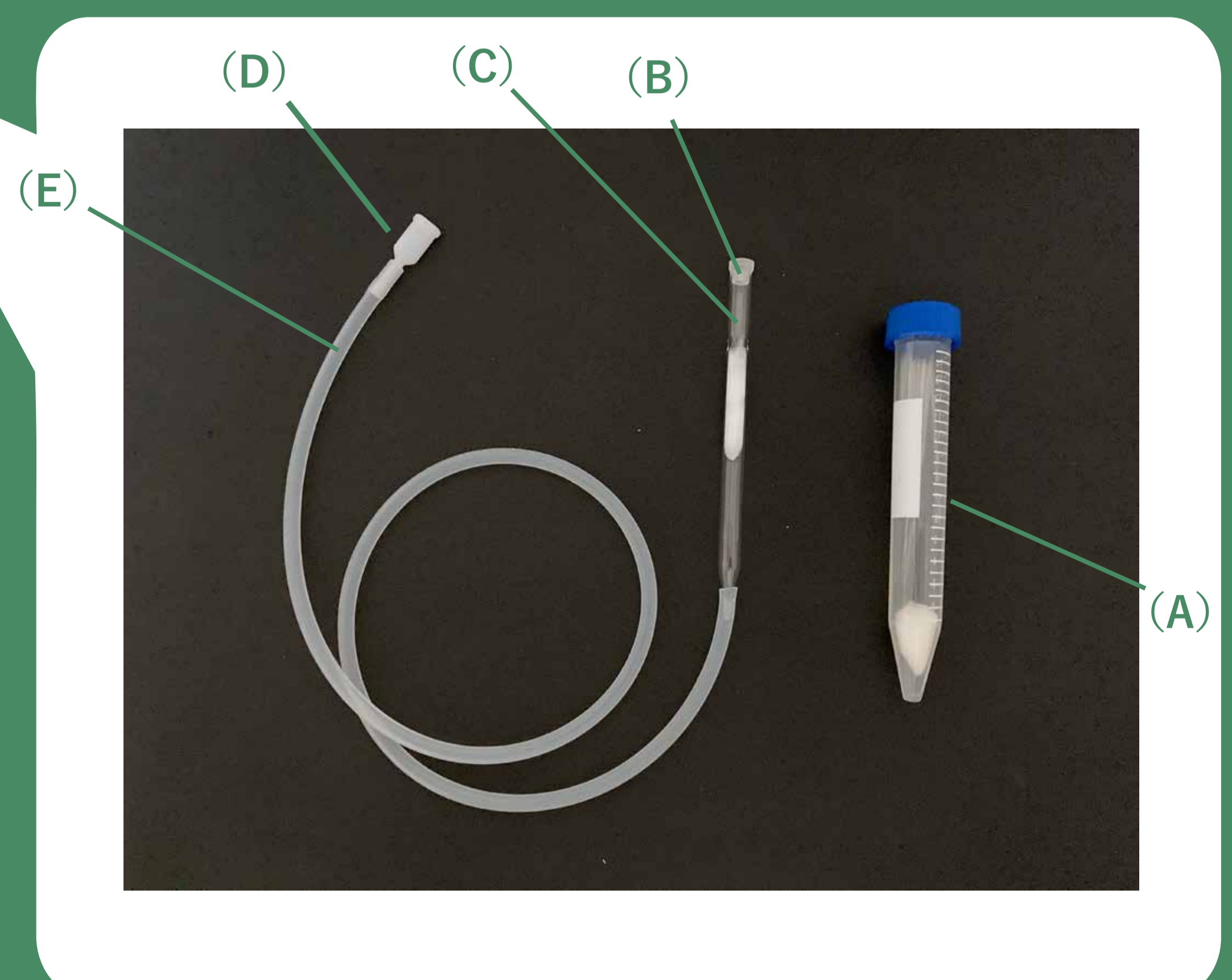
CARD Rat Sperm Freezing Kit is a useful kit for producing high-quality frozen rat sperm using CARD FERTIUP Rat Sperm Cryopreservation Agent. It allows users to correctly carry out the cooling process during the sperm cryopreservation operation.

Embryo Manipulation Instrument Kit

Our embryo manipulation instrument kit utilizes a glass capillary to ensure the uniform transfer of embryos.

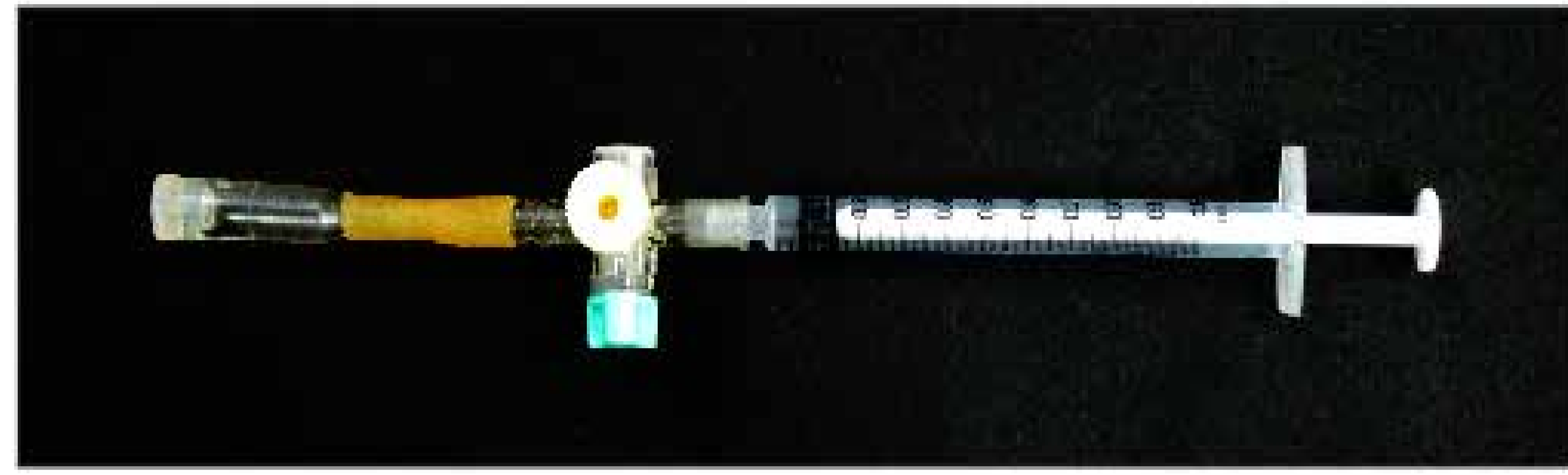
Set contents: Glass capillaries for embryo transfer (20 pieces; dry-heat sterilized) (A), a connector (B), a Pasteur pipette (C), a mouthpiece (D), a silicon tube (E)

* We will send customers all equipment required for embryo transfer.



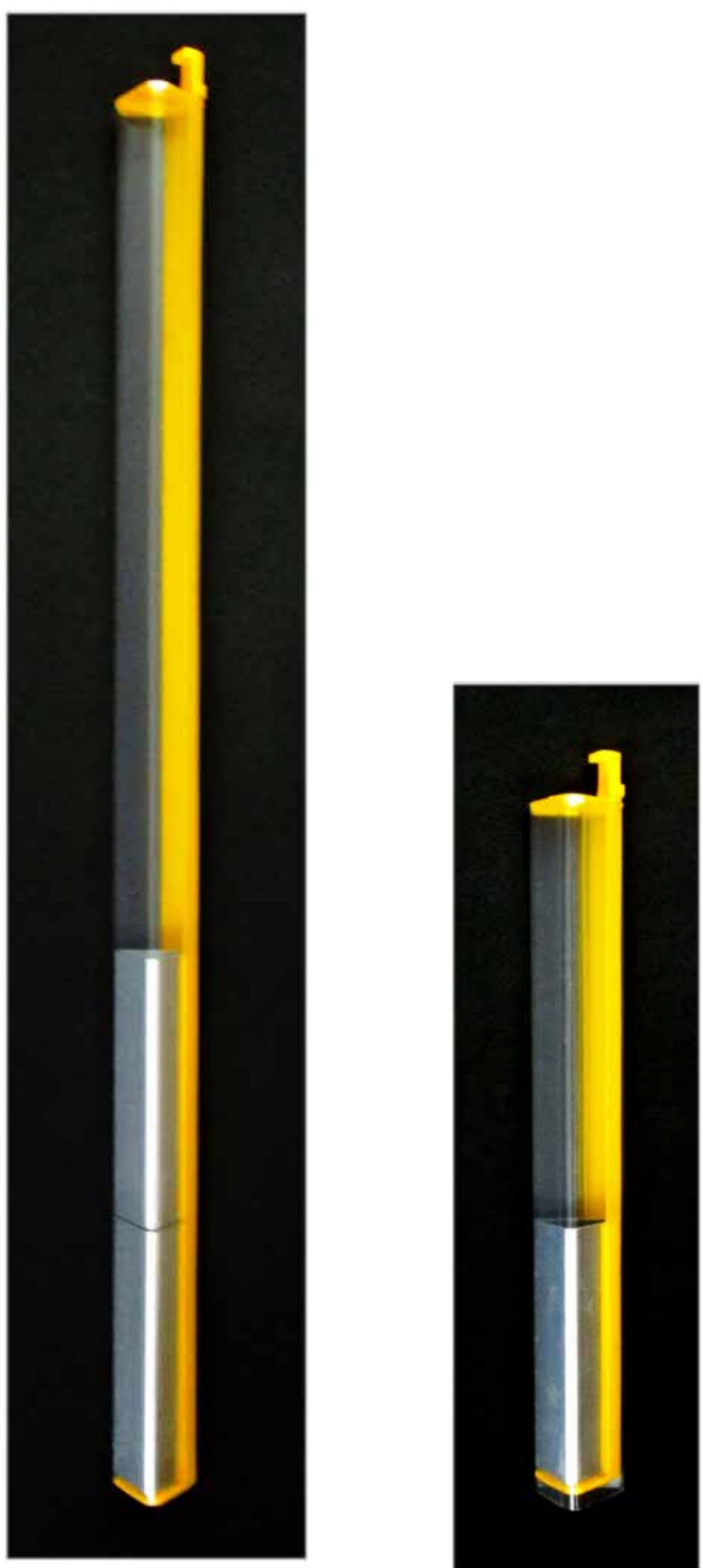
Straw Connector

A straw connector is used for sucking up sperm suspended in CARD FERTIUP Sperm Cryopreservation Agent into sperm straws.



Triangular Cassette Long (W278mm) Triangular Cassette Short (W145mm)

Cassettes used when cryopreserving straws containing sperm suspension in liquid nitrogen. We offer two types of cassette: a long 278mm cassette, which can store up to around 30 straws, and a short 145mm, which can store up to around 15 straws.



Sperm Freezing Straws (10 pieces)

This is a 0.25mL straw used for sperm storage. Our straws enable the storage of sperm in liquid nitrogen for long periods of time. All straws have been sterilized using EOG.



Freezing Canister

A freezing canister for use in sperm cryopreservation. Using a float guarantees a cooling rate conducive to mouse sperm cryopreservation on liquid nitrogen, which in turn enables the storage of higher quality frozen sperm.

About Purchases from Outside of Japan

Our reproductive technology reagent products are used by research institutions around the world.



Distributed worldwide by Cosmo Bio USA

COSMO BIO USA
Great Reagents Drive Great Research

2792 Loker Avenue West, Suite 101
Carlsbad, CA 92010 USA
<https://www.cosmobioussa.com/>
info@cosmobioussa.com



NOMURA JIMUSHO

HIBIYA CENTRAL BLDG, 1-2-9 Nishi
Shimbashi, Minato-ku, Tokyo
105-0003, Japan
<http://www.nomjim.co.jp/en/contact/>

FHK

FUJIHIRA INDUSTRY CO.,LTD.

11-6 Hongo 6-chome, Bunkyo-ku,
Tokyo 113-0033, Japan
<http://www.fujihira.co.jp/english/contact.html>

Technical support

If you have any questions, queries or issues concerning our reagents for use in mouse/rat reproductive technology, please feel free to contact us using the contact details below.

Our veteran technicians are on hand to help solve any problems that you may have.



web_req@kyudo.co.jp



No.	References
1	Takeo T, Nakagata N. Combination medium of cryoprotective agents containing L-glutamine and methyl- β -cyclodextrin in a preincubation medium yields a high fertilization rate for cryopreserved C57BL/6J mouse sperm. <i>Laboratory Animals</i> , 44(2), 132-137, 2010
2	Takeo T, Hoshii T, Kondo Y, Toyodome H, Arima H, Yamamura K, Irie T, Nakagata N. Methyl-beta-cyclodextrin improves fertilizing ability of C57BL/6 mouse sperm after freezing and thawing by facilitating cholesterol efflux from the cells. <i>Biology of Reproduction</i> , 78(3):546-51, 2008
3	Takeo T, Nakagata N. Reduced glutathione enhances fertility of frozen/thawed C57BL/6 mouse sperm after exposure to methyl-beta-cyclodextrin. <i>Biology of Reproduction</i> , 85(5), 1066-1072, 2011
4	Takeo T, Nakagata N. Immunotherapy using inhibin antiserum enhanced the efficacy of equine chorionic gonadotropin on superovulation in major inbred and outbred mice strains. <i>Theriogenology</i> , 86(5), 1341-1346, 2016
5	Takeo T, Nakagata N. Superovulation using the combined administration of inhibin antiserum and equine chorionic gonadotropin increases the number of ovulated oocytes in C57BL/6 female mice. <i>PLoS One</i> , 10(5), 2015
6	Nakagata N, Mikoda N, Nakao S, Nakatsukasa E, Takeo T. Establishment of sperm cryopreservation and in vitro fertilisation protocols for rats. <i>Scientific Reports</i> , 10, 93, 2020
7	Takeo T, Nakao S, Mikoda N, Yamaga K, Maeda R, Tsuchiyama S, Nakatsukasa E, Nakagata N. Optimized protocols for sperm cryopreservation and in vitro fertilization in the rat. <i>Lab animal</i> , 51, 256-274, 2022

Products List

Reagents for Rat Reproductive Technology	STANDARD	Storage Temp.
CARD FERTIUP Rat Sperm Cryoprotectant Agent	1.5 mL	-80°C to -20°C
CARD Rat IVF Medium	1.0 mL	4°C

Reagents for Mouse Reproductive Technology	STANDARD	Storage Temp.
CARD FERTIUP Mouse Sperm Cryoprotectant Agent: CPA	0.5 mL	18 to 28°C
	1.0 mL	
CARD FERTIUP Mouse Sperm Preincubation Medium: PM	0.5 mL	4°C
	1.0 mL	
CARD MEDIUM Mouse Fertilization Medium	1 kit	4°C
CARD FERTIUP PM (0.5mL) and CARD MEDIUM Mouse Fertilization Medium Kit	1 set	4°C
CARD FERTIUP PM (1.0mL) and CARD MEDIUM Mouse Fertilization Medium Kit	1 set	
CARD HyperOva Superovulation Reagent for Mouse	0.6 mL	-80°C to -20°C
	1.0 mL	
CARD HyperOva F.D. Superovulation Reagent for Mouse	1 kit	4°C
	5 kit	
CARD mHTF Medium	2.0 mL	4°C
	5.0 mL	
CARD KSOM	2.0 mL	4°C
	5.0 mL	
CARD 0.25M Sucrose	2.0 mL	4°C
	5.0 mL	
CARD 1M DMSO	1.0 mL	4°C
CARD DAP213	0.5 mL	4°C
	1.0 mL	

Reproductive Technology Tools for Mouse/Rat	STANDARD	Storage Temp.
Straw Connector	1 unit	-
Triangular Cassette Short (W145mm)	10 units	-
Triangular Cassette Long (W278mm)	10 units	-
Sperm Freezing Straws (10 pieces)	10 units	-
CARD Cold Transport Kit (*The storage temp. of cold storage solution for cauda epididymis)	1 kit	4°C*
Embryo Manipulation Instrument Kit	1 kit	-
Freezing Canister	1 unit	-
CARD Rat Sperm Freezing Kit	1 kit	-

Mouse/Rat Reproductive Engineering Reagents are intended for research use only and are not intended for diagnostic or therapeutic purposes. FERTIUP, CARD MEDIUM, and CARD HyperOva are registered trademarks. All information is current as of October 2022.

Are you having trouble
storing your transgenic
mouse or rat strains?

Are you struggling with
maintenance, upkeep or
breeding?

We can help.

We at Kyudo Co, Ltd. provide a wide range of reagents for use at every stage of mouse and rat reproductive technology, from superovulation and *in vitro* fertilization through to the freezing of sperm and embryos.

These high quality reagents were developed in collaboration with the Center for Animal Resources and Development, Kumamoto University. We manufacture and sell the reagents under license to customers worldwide.

Using reproductive engineering techniques alongside our reagents contributes to a significant reduction in the number of animals required per experiment, thereby following the 3R Principle.

Kyudo Co., Ltd

