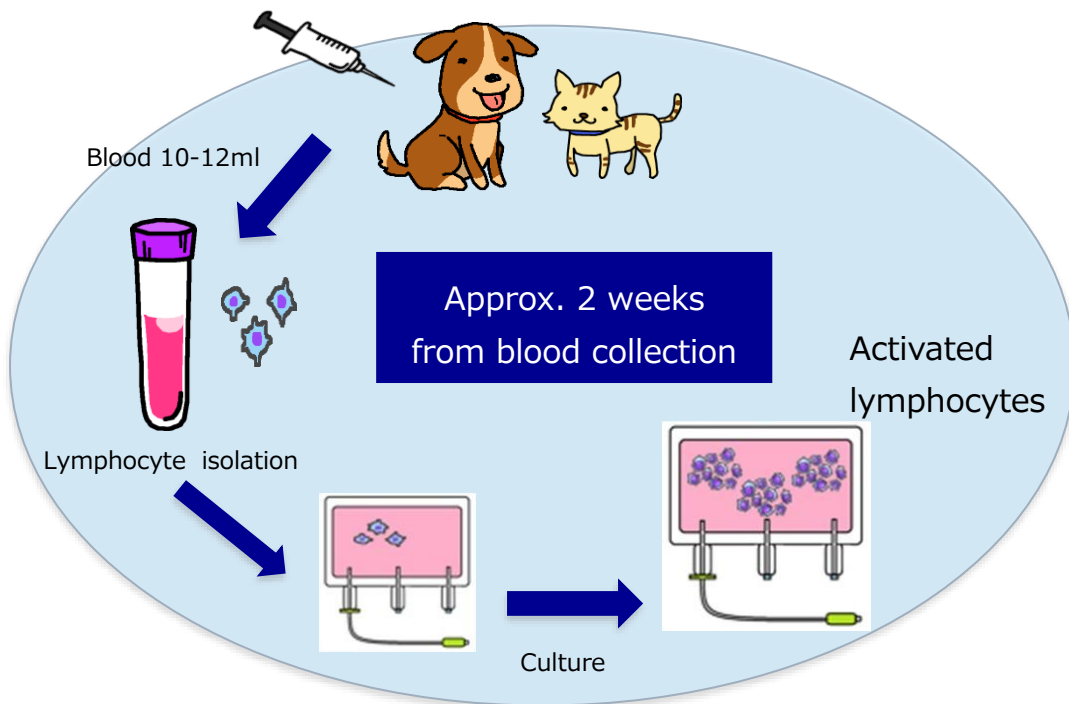J-ARM
For Regenerative Medicine

Culture kit for activated lymphocytes（CAT）

The Activated Lymphocyte Culture Kit is a kit for convenient culture of activated lymphocytes from canine and feline peripheral blood.

Blood 10-12ml

Approx. 2 weeks from blood collection

Activated lymphocytes

Lymphocyte isolation

Culture

Forte

Possible in a simple clean room
•No special equipment or strict environment required

All-in-one
•All aspects of culture can be done with just the kit

Disposable
•No contamination by reuse

Can be prepared in-house at a general hospital

Minimally invasive with only an intravenous infusion

Leading the way, unparalleled in the U.S. and abroad

Composition

This all-in-one culture kit includes everything necessary for culture, including culture bag, culture medium, and pipettes.

Application Examples

Using our activated lymphocyte culture kit, we cultured canine peripheral blood. In the obtained cultured cells, gene expression levels of IFN-ɤ, which enhances the ability to attack cancer cells, and proenkephalin, an opioid that exerts analgesic effects, increased 3.5- and 2.7-fold, respectively, compared to those before culture (Figure 1). In addition, when these cultured cells were cultured together with cancer cells, most of the cancer cells were killed (Figure 2). These results indicate that opioid production from the proliferating cells as well as IFN-ɤ production increased and their ability to kill cancer cells increased.
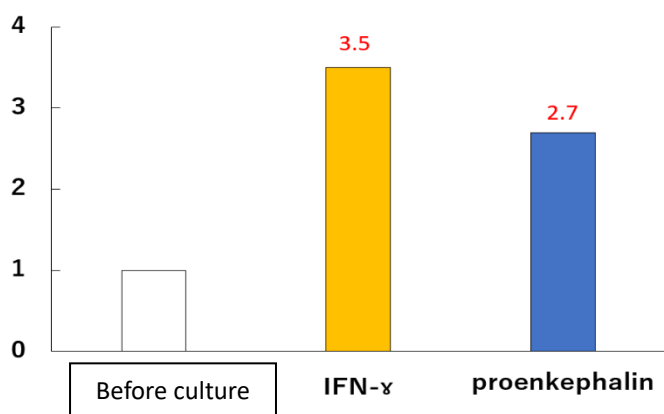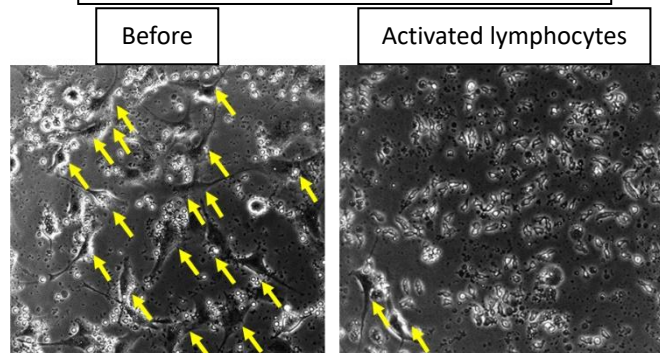
Fig. 1. Gene expression levels in activated lymphocytes

Fig. 2. Tumor-killing activity for cancer cells

| Before | Activated lymphocytes |

(Left: Spindle-shaped cancer cells (yellow arrows) proliferate; Right: Cancer cells die)

Literature and Presentations

1) Mitani K, Ito Y, Takene Y, Hatoya S, Sugiura K, Inaba T. Quality of life-improving effect of autologous ex vivo expanded cytotoxic and opioid-producing lymphocytes for dogs with cancers. Vet. Immunol. Immunopathol. 2021.

2) Mitani K, Ito Y, Takene K, Inaba T, Sugiura K. Isolation of opioid-producing cells by canine activated lymphocyte culture kit and analysis of its clinical application results. Japanese Society for Veterinary Regenerative Medicine 15th Annual Meeting 2020.

3) Tohya S, Mitani K, Ito Y, Inaba T, Okada K. (J-ARM Inc.), QOL evaluation by owners in canine cancer immunotherapy and fat stem cell therapy, 160th Annual Meeting of the Japanese Society of Veterinary Science 2017.

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| Before | First | Second | Third | Fourth |