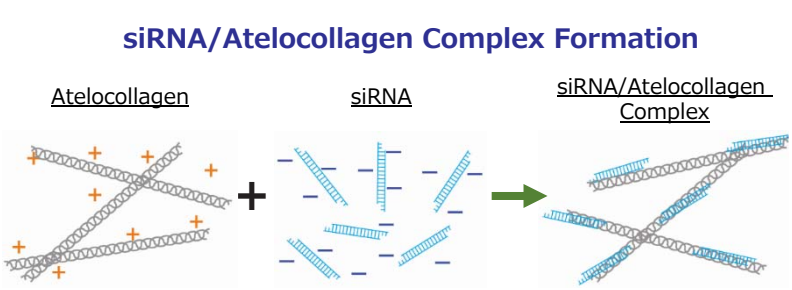
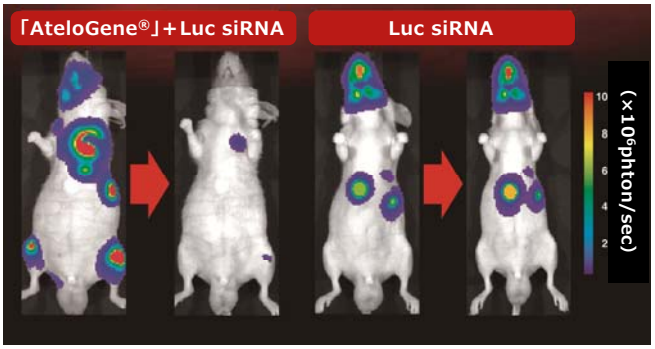
in vivo siRNA/miRNA Transfection Kit AteloGene®

Local & Systemic Use: Simple, Efficient Method for Transfection of siRNA and miRNA with low toxicity

Outline

Atelocollagen, the main component of AteloGene®, forms siRNA/miRNA atelocollagen complexes by appropriate mixing with synthetic siRNA/miRNA. The siRNA/miRNA atelocollagen complexes are optimal for *in vivo* transfection, and siRNA/miRNA is effectively delivered and introduced into the cells.

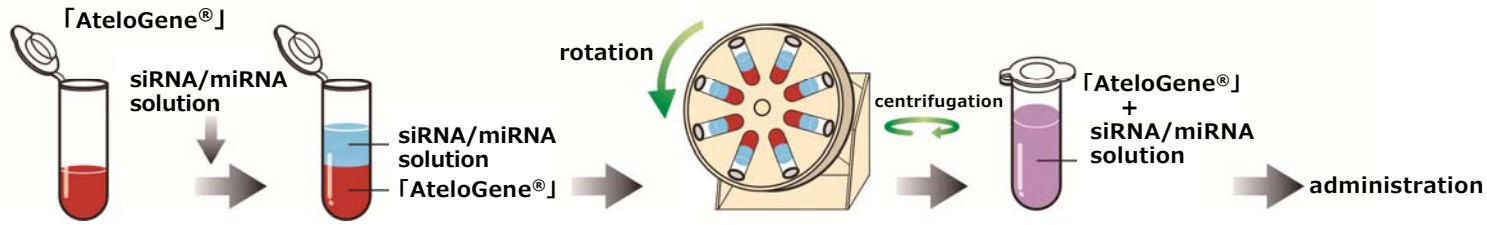




Two types of AteloGene® are available depending on your target tissue or method of administration.
AteloGene® Local Use is designed for localized administration due to its gelation capability. Gelated siRNA/atelocollagen complexes remain at the injection site and siRNA/miRNA is delivered into the cells effectively.
AteloGene® Systemic Use is suitable for systemic administration via tail vein injection because it does not gelate, and siRNA/miRNA is delivered effectively by the bloodstream throughout the whole body.

Simple handling

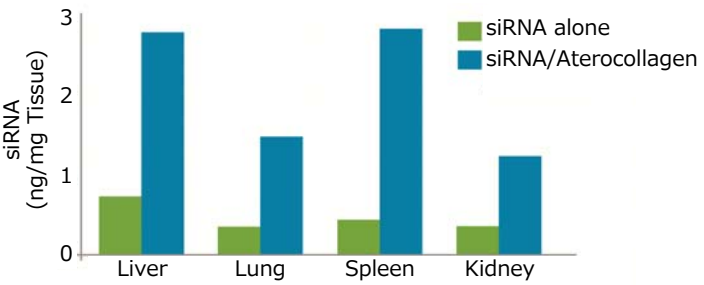
AteloGene® procedures are simple and easy.
Mix equal volumes of AteloGene® and siRNA/miRNA solution, and administrate the siRNA/miRNA AteloGene® mixture to the mouse.



Efficient Delivery of siRNA/miRNA

AteloGene® enhances delivery of siRNA to tissues.

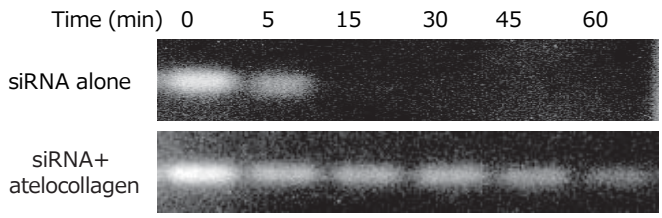
(Takeshita F, *et al.* (2005) *Proc Natl Acad Sci USA.* **102** (34): 12177-12182).



Stability of siRNA/miRNA

siRNA in the atelocollagen/siRNA complex has enhanced stability relative to naked siRNA.

(Minakuchi Y, *et al.* (2004) *Nucleic Acids Res.* **32** (13):e109.)



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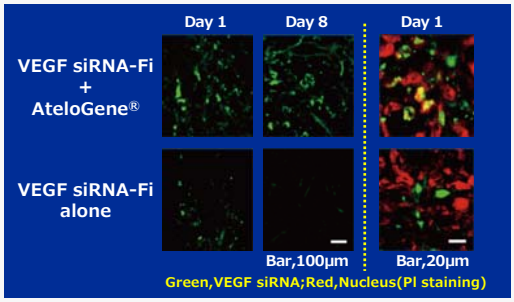
Stability of VEGF siRNA by intratumoral administration

(Data source: Dr. Y. Takei, Nagoya University, Japan)

AteloGene® Local Use was mixed with fluorescent labeled vascular endothelial growth factor (VEGF) siRNA and injected into subcutaneous tumor. Compared to naked siRNA, atelocollagen/siRNA complex gives enhanced effectiveness of transfection, leading to prolonged effectiveness of siRNA treatment.

(Takei Y, *et al.* (2004) *Cancer Res.* **64** (10): 3365-3370).

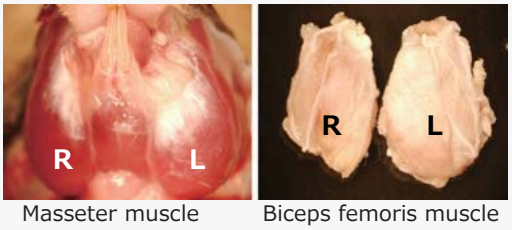


Muscular mass in mice increased by local and systemic administration of myostatin-targeting siRNA

(Data source: Dr. S. Noji, Tokushima University, Japan)

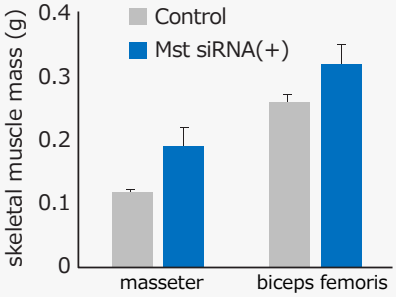
Using the AteloGene® Local Use kit, administration of the atelocollagen/siRNA complex increased molecular mass compared to naked siRNA control. Similar results were seen after systemic administration using AteloGene Systemic Use.

(Kinouchi N, *et al.* (2008) *Gene Ther.* **15** (15): 1126-1130).



Masseter muscle　Biceps femoris muscle

R:control
L:Mst siRNA(+)

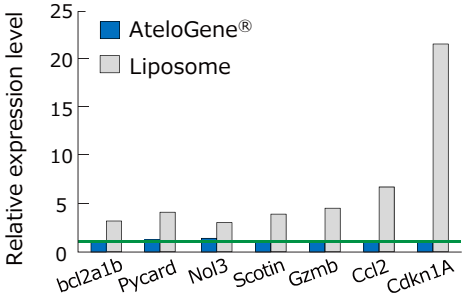


Low Toxicity

Microarray Analysis Shows Low Toxicity of AteloGene®

Expression analysis after administration of siRNA using AteloGene® shows reduced expression of apoptosis-related genes relative to administration of siRNA using a liposomal method.

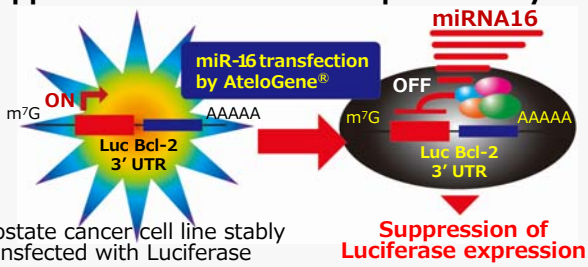
(Ogawa S,*et al.* (2011) *J Toxicol Sci.* **36** (6): 751-762.)



Systemic delivery of miRNA

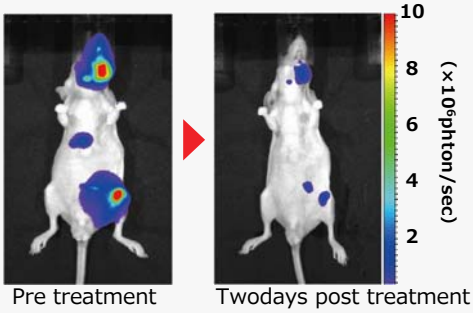
(Data source: Dr. F. Takeshita and Dr. T. Ochiya, National Cancer Center Research Institute, Japan)

Suppression of Luciferase expression by miRNA



Prostate cancer cell line stably transfected with Luciferase

Suppression of Luciferase expression



Pre treatment　Twodays post treatment

This reporter system was stably introduced into a metastatic model of prostate cancer cells. Luciferase expression was markedly suppressed when miR-16 was administered systemically with AteloGene® Systemic Use. Marked inhibition of metastasis was also observed. (Takeshita F, *et al.* (2010) *Mol Ther.* **18** (1): 181-187).

Catalog No.	Product	Quantity	Storage
KKN-1394	AteloGene® Local Use	1 Kit*	2-10℃
KKN-1395	AteloGene® Systemic Use	1 Kit*	2-10℃

*Sufficient for 10 injections. **Agreement is needed to purchase AteloGene®.

For research use only. Not for diagnostic use.

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