KOKEN *in vivo* siRNA/miRNA Transfection Kits

AteloGene®

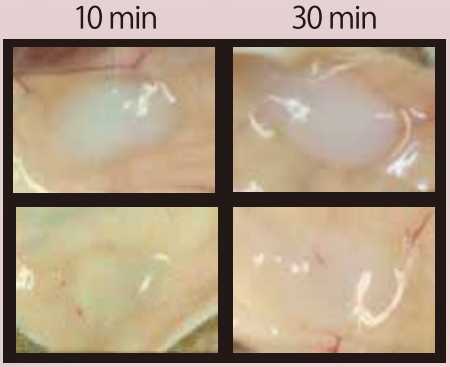
Local Use "Quick Gelation"

Quick gelation at injection sites

Comparison of gelation time with mouse subcutaneous tissue.

AteloGene® QG & siRNA

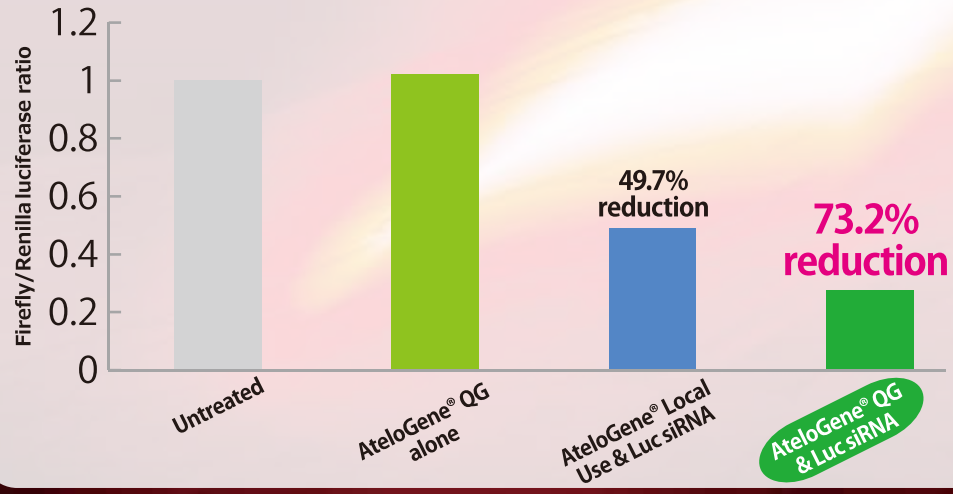
AteloGene® Local Use & siRNA



AteloGene® Local Use "Quick Gelation" (AteloGene® QG) and **AteloGene® Local Use** were mixed with siRNA respectively, and were observed for gelation after administration in mouse subcutaneous tissue. Compared with **AteloGene® Local Use**, results for **AteloGene® QG** showed a rapider gelation after administration.

Efficient Delivery

Luciferase siRNA administration in a subcutaneous tumor model.

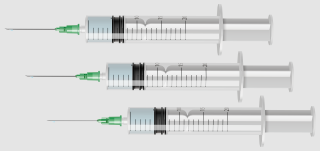


AteloGene® QG and **AteloGene® Local Use** were mixed with Luciferase siRNA (Luc siRNA) respectively, and evaluated for the luminescence of Luciferase after administration in a Dual-luciferase expressed subcutaneous tumor model. Result with **AteloGene® QG** showed higher inhibition of Luciferase gene expression than results compared to **AteloGene® Local Use**.

Increased Volume

Increased number of administrations.

AteloGene® QG



15 times of mouse administration per kit*
(5 times more than previous product)

*Calculated by 200 µL/ injection. Depending on target tissues, number of administrations may be over 15 times.

For example,
1 kit may be used for
experiments as follows

n=5; 4 groups

- None/PBS administration group
- AteloGene® QG alone
- AteloGene® QG & control nucleic acid
- AteloGene® QG & target nucleic acid

OR

n=7; 3 groups

- None/PBS administration group
- AteloGene® QG & control nucleic acid
- AteloGene® QG & target nucleic acid

…etc.

Features of AteloGene®

- Forms complexes with nucleic acid, and protects nucleic acid from degradation.
- Inhibits the immune response against double stranded RNA.
- Limited expression changes of genes induced by toxicity, and a distinct introduction effect of nucleic acid.
- Choices between [Local Use] for controlled release of nucleic acid from gel, and [Systemic Use] for whole body delivery without gel formation.

Atelocollagen, the main component of AteloGene®, forms complexes suitable for *in vivo* transfection by mixing with appropriate concentration and ratio of nucleic acid. Complexes repress the degradation of nucleic acid caused by nuclease, and are effectively introduced into cells of tissues *in vivo*. Both [AteloGene® Local Use] and [AteloGene® Local Use Quick Gelation] for localized administration have a controlled release effective of nucleic acid at the administration site, because of its gelation capability *in vivo*. [AteloGene® Systemic Use] for systemic administration, on the other hand, does not gelate and can deliver nucleic acid effectively via tail vein injection into the bloodstream throughout the whole body.

Reported Drug Delivery Systems using atelocollagen

Antisense ODN*1/SSO*2

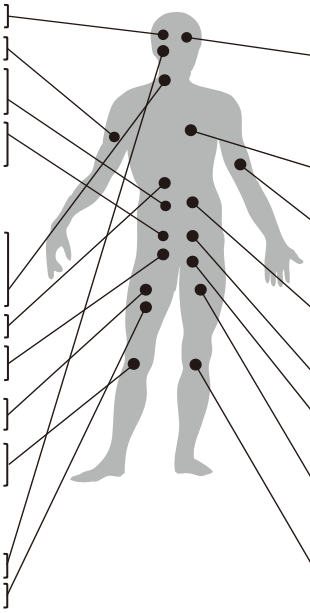
Contact hypersensitivity
Rhabdomyosarcoma, Osteosarcoma
Familial amyloid polyneuropathy
Digestive cancer, Rectal cancer
Testicular cancer
Prostate cancer, Prostate cancer

miRNA / miRNA inhibitor

Oral squamous cell carcinoma
Laryngeal cancer, Head and neck carcinoma
Anaplastic large cell lymphoma
Oral squamous cell carcinoma
Nerve pain, Scleroderma
Colon cancer, Scirrhous stomach cancer
Endodermal cancer
Muscle injury (Muscle regeneration)
Vascular inflammatory diseases
Arthritis, Anterior cruciate ligament injury,
Arthritis

Plasmid DNA

Glioma
Vascular endothelial dysfunction



siRNA/shRNA

Corneal injury, Hypertension, Bone differentiation
Progressive multifocal leukoencephalopathy
Nickel allergy, Choroidal neovascularization
Esophageal squamous cell carcinoma, Glioma
Sialoma, Head and neck carcinoma, Contact hypersensitivity
Multiple sclerosis, Oral squamous cell carcinoma

Premature senescence, Asthma, Mesothelioma, Breast cancer
Pulmonary adenocarcinoma, Non-small cell lung cancer
Breast cancer, Lung cancer, Non-small cell lung cancer

Fibrosis, Melanoma, Osteosarcoma, Ewing's sarcoma
Melanoma

Kidney stone, Hepatocellular carcinoma, Colon cancer,
Renal cell cancer Pancreatic carcinoma, Cholangiocarcinoma
Autoimmune diabetes
Drug and chemical induced acute liver injuries
Scirrhous gastric cancer

Spinal cord injury, Myeloma

Cervical cancer, Testicular cancer, Prostate cancer
Urothelial carcinoma, Bladder cancer, Ovarian cancer,
Prostate cancer

Muscular dystrophy, Muscle injury (muscle regeneration)
Intimal hyperplasia, Bone fracture
Muscular dystrophy
Limb girdle muscular dystrophy

Arthritis

※1 ODN: Oligodeoxynucleotide
※2 SSO: Single strand oligonucleotide

Blue: Local Use Red: Systemic Use

Ordering information

Description	Cat. No.	Quantity
AteloGene® Local Use Quick Gelation	KOU-1492	1 Kit (Sufficient for 15 injections*)

Related Products

AteloGene® Local Use	KOU-1392	1 Kit (Sufficient for 10 injections*)
AteloGene® Systemic Use	KOU-1393	1 Kit (Sufficient for 10 injections*)

*Calculated by 200 µL/injection. Depending on target tissue, administration may be over 10 and 15 times respectively.

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