

## 三次元培養(管腔構造形成・分化誘導・糖化)

**Progranulin and granulin-like protein as novel VEGF-independent angiogenic factors derived from human mesothelioma cells.**

Eguchi R, Nakano T, Wakabayashi I.  
*Oncogene*. 2017 Feb 2;36(5):714-722. PMID: 27345409  
コラーゲン酸性溶液を使用

**ECM microenvironment unlocks brown adipogenic potential of adult human bone marrow-derived MSCs.**

Lee MH, Goralczyk AG, Kriszt R, Ang XM, Badowski C, Li Y, Summers SA, Toh SA, Yassin MS, Shabbir A, Sheppard A, Raghunath M.  
*Sci Rep*. 2016 Feb 17;6:21173. PMID: 26883894  
コラーゲン酸性溶液を使用

**Increased AGE-RAGE ratio in idiopathic pulmonary fibrosis.**

Machahua C, Montes-Worboys A, Llatjos R, Escobar I, Dorca J, Molina-Molina M, Vicens-Zygmunt V.  
*Respir Res*. 2016 Nov 5;17(1):144. PMID: 27816054  
コラーゲン酸性溶液を使用

## 共培養(皮膚モデル・浸潤評価・非接触共培養)

**Fetal Therapy Model of Myelomeningocele with Three-Dimensional Skin Using Amniotic Fluid Cell-Derived Induced Pluripotent Stem Cells.**

Kajiwara K, Tanemoto T, Wada S, Karibe J, Ihara N, Ikemoto Y, Kawasaki T, Oishi Y, Samura O, Okamura K, Takada S, Akutsu H, Sago H, Okamoto A, Umezawa A.  
*Stem Cell Reports*. 2017 Jun 6;8(6):1701-1713. PMID: 28591652  
コラーゲン酸性溶液を使用

**Oncogenic Ras/ERK signaling activates CDCP1 to promote tumor invasion and metastasis.**

Uekita T, Fujii S, Miyazawa Y, Iwakawa R, Narisawa-Saito M, Nakashima K, Tsuta K, Tsuda H, Kiyono T, Yokota J, Sakai R.  
*Mol Cancer Res*. 2014 Oct;12(10):1449-59. PMID: 24939643  
コラーゲン酸性溶液を使用

**Characteristic Gene Expression Profiles of Human Fibroblasts and Breast Cancer Cells in a Newly Developed Bilateral Coculture System.**

Ueno T, Utsumi J, Toi M, Shimizu K.  
*Biomed Res Int*. 2015;2015:960840. PMID: 26171396  
透過性コラーゲン膜を使用

## 3Dプリンティング・エレクトロスピニング

**Development of a 3D cell printed construct considering angiogenesis for liver tissue engineering.**

Lee JW, Choi YJ, Yong WJ, Pati F, Shim JH, Kang KS, Kang IH, Park J, Cho DW.  
*Biofabrication*. 2016 Jan 12;8(1):015007. PMID: 26756962  
研究用コラーゲンパウダーを使用

**Bio-inspired in situ crosslinking and mineralization of electrospun collagen scaffolds for bone tissue engineering.**

Dhand C, Ong ST, Dwivedi N, Diaz SM, Venugopal JR, Navaneethan B, Fazil MH, Liu S, Seitz V, Wintermantel E, Beuerman RW, Ramakrishna S, Verma NK, Lakshminarayanan R.  
*Biomaterials*. 2016 Oct;104:323-38. PMID: 27475728  
研究用コラーゲンパウダーを使用

## 細胞移植

**Three-dimensional system enabling the maintenance and directed differentiation of pluripotent stem cells under defined conditions.**

Zujur D, Kanke K, Lichtler AC, Hojo H, Chung UI, Ohba S.  
*Sci Adv*. 2017 May 12;3(5):e1602875. PMID: 28508073  
コラーゲンスポンジ マイティーを使用

**Transplantation of neurons derived from human iPS cells cultured on collagen matrix into guinea-pig cochlea.**

Ishikawa M, Ohnishi H, Skerleva D, Sakamoto T, Yamamoto N, Hotta A, Ito J, Nakagawa T.  
*J Tissue Eng Regen Med*. 2017 Jun;11(6):1766-1778. PMID: 26205474  
コラーゲンスポンジ ハニカムを使用

**Optimization of Cultured Human Corneal Endothelial Cell Sheet Transplantation and Post-Operative Sheet Evaluation in a Rabbit Model.**

Yamaguchi M, Shima N, Kimoto M, Ebihara N, Murakami A, Yamagami S.  
*Curr Eye Res*. 2016 Sep;41(9):1178-84. PMID: 26828450  
透過性コラーゲン膜を使用

## 生理活性物質の徐放

**Secreted Ectodomain of Sialic Acid-Binding Ig-Like Lectin-9 and MCP-1 Synergistically Regenerate Transected Rat Peripheral Nerves by Altering Macrophage Polarity. Stem Cells.**

Kano, F., Matsubara, K., Ueda, M., Hibi, H. and Yamamoto, A.  
*Stem Cells*. 2017 Mar;35(3):641-653. PMID: 27862629  
コラーゲンスポンジ ハニカムを使用

## がん細胞の積層化モデル

**Vascularized Tissue-Engineered Model for Studying Drug Resistance in Neuroblastoma.**

Villasante A, Sakaguchi K, Kim J, Cheung NK, Nakayama M, Parsa H, Okano T, Shimizu T, Vunjak-Novakovic G.  
*Theranostics* 2017; 7(17):4099-4117.  
コラーゲン酸性溶液I-ACを使用

## 皮下腫瘍モデル

**Tumor associated osteoclast-like giant cells promote tumor growth and lymphangiogenesis by secreting vascular endothelial growth factor-C.**

Hatano Y, Nakahama KI, Isobe M, Morita I.  
*Biochem Biophys Res Commun*. 2014 Mar 28;446(1):149-54. PMID: 24607909  
コラーゲンスポンジ マイティーを使用

## 力学刺激培養

**Cyclic compressive loading on 3D tissue of human synovial fibroblasts upregulates prostaglandin E2 via COX-2 production without IL-1 $\beta$  and TNF- $\alpha$ .**

Shimomura K, Kanamoto T, Kita K, Akamine Y, Nakamura N, Mae T, Yoshikawa H, Nakata K.  
*Bone Joint Res*. 2014 Sep;3(9):280-8. PMID: 25237168  
コラーゲンスポンジ マイティーを使用

その他多数の参考文献は[www.atelocollagen.com](http://www.atelocollagen.com)

## 皮下/同所移植腫瘍モデルへのmiRNA投与

**Depleted tumor suppressor miR-107 in plasma relates to tumor progression and is a novel therapeutic target in pancreatic cancer.**

Imamura T, Komatsu S, Ichikawa D, Miyamae M, Okajima W, Ohashi T, Kiuchi J, Nishibeppu K, Konishi H, Shiozaki A, Morimura R, Ikoma H, Ochiai T, Okamoto K, Taniguchi H, Otsuji E. *Sci Rep*. 2017 Jul 18;7(1):5708. PMID: 28720759

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**MiR675-5p Acts on HIF-1 $\alpha$  to Sustain Hypoxic Responses: A New Therapeutic Strategy for Glioma.**

Lo Dico A, Costa V, Martelli C, Diceglie C, Rajata F, Rizzo A, Mancone C, Tripodi M, Ottobriani L, Alessandro R, Conigliaro A. *Theranostics*. 2016 May 8;6(8):1105-18. PMID: 27279905

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## 肝/皮膚線維症モデルへのmiRNA/siRNA投与

**MiR-29a Assists in Preventing the Activation of Human Stellate Cells and Promotes Recovery From Liver Fibrosis in Mice.**

Matsumoto Y, Itami S, Kuroda M, Yoshizato K, Kawada N, Murakami Y.

*Mol Ther*. 2016 Oct;24(10):1848-1859. PMID: 27480597

[AteloGene Systemic Useを使用](#)

**Tribbles homologue 3 stimulates canonical TGF- $\beta$  signalling to regulate fibroblast activation and tissue fibrosis.**

Tomcik M, Palumbo-Zerr K, Zerr P, Sumova B, Avouac J, Dees C, Distler A, Becvar R, Distler O, Schett G, Senolt L, Distler JH. *Ann Rheum Dis*. 2016 Mar;75(3):609-16. PMID: 25603829

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## ドライアイモデルへのsiRNA投与

**MPACAP suppresses dry eye signs by stimulating tear secretion.**

Nakamachi T, Ohtaki H, Seki T, Yofu S, Kagami N, Hashimoto H, Shintani N, Baba A, Mark L, Lanekoff I, Kiss P, Farkas J, Reglodi D, Shioda S.

*Nat Commun*. 2016 Jun 27;7:12034. PMID: 27345595

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## 肺気腫モデルへのsiRNA投与

**RNA interference targeting carbohydrate sulfotransferase 3 diminishes macrophage accumulation, inhibits MMP-9 expression and promotes lung recovery in murine pulmonary emphysema.**

Kai Y, Tomoda K, Yoneyama H, Yoshikawa M, Kimura H. *Respir Res*. 2015 Dec 9;16:146. PMID: 26646821

[AteloGene Systemic Useを使用](#)

## 関節炎モデルへのsiRNA投与

**AAA-ATPase p97 suppresses apoptotic and autophagy-associated cell death in rheumatoid arthritis synovial fibroblasts.**

Kato M, Ospelt C, Kolling C, Shimizu T, Kono M, Yasuda S, Michel BA, Gay RE, Gay S, Klein K, Atsumi T.

*Oncotarget*. 2016 Sep 27;7(39):64221-64232. PMID: 27623077

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## 多発性硬化症モデルへのsiRNA投与

**Eomesodermin-expressing T-helper cells are essential for chronic neuroinflammation.**

Raveney BJ, Oki S, Hohjoh H, Nakamura M, Sato W, Murata M, Yamamura T.

*Nat Commun*. 2015 Oct 5;6:8437. PMID: 26436530

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## 代謝性疾患/糖尿病モデルへのsiRNA/miRNA投与

**Theobromine suppresses adipogenesis through enhancement of CCAAT-enhancer-binding protein  $\beta$  degradation by adenosine receptor A1.**

Mitani T, Watanabe S, Yoshioka Y, Katayama S, Nakamura S, Ashida H.

*Biochim Biophys Acta*. 2017 Sep 28;1864(12):2438-2448. PMID: 28965824

[AteloGene Local Useを使用](#)

**MicroRNAs 106b and 222 Improve Hyperglycemia in a Mouse Model of Insulin-Deficient Diabetes via Pancreatic  $\beta$ -Cell Proliferation.**

Tsukita S, Yamada T, Takahashi K, Munakata Y, Hosaka S, Takahashi H, Gao J, Shirai Y, Kodama S, Asai Y, Sugisawa T, Chiba Y, Kaneko K, Uno K, Sawada S, Imai J, Katagiri H.

*EBioMedicine*. 2017 Feb;15:163-172. PMID: 27974246

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## 脳・神経関連のsiRNA投与

**Role of Sialidase in Long-Term Potentiation at Mossy Fiber-CA3 Synapses and Hippocampus-Dependent Spatial Memory.**

Minami A, Saito M, Mamada S, Ieno D, Hikita T, Takahashi T, Otsubo T, Ikeda K, Suzuki T.

*PLoS One*. 2016 Oct 26;11(10):e0165257. PMID: 27783694

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**Chondroitin sulphate N-acetylgalactosaminyl-transferase-1 inhibits recovery from neural injury.**

Takeuchi K, Yoshioka N, Higa Onaga S, Watanabe Y, Miyata S, Wada Y, Kudo C, Okada M, Ohko K, Oda K, Sato T, Yokoyama M, Matsushita N, Nakamura M, Okano H, Sakimura K, Kawano H, Kitagawa H, Igarashi M.

*Nat Commun*. 2013;4:2740. PMID: 24220492

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## 動脈硬化モデルへのmiRNA投与

**Protective Effect of Let-7 miRNA Family in Regulating Inflammation in Diabetes-Associated Atherosclerosis.**

Brennan E, Wang B, McClelland A, Mohan M, Marai M, Beuscart O, Derouiche S, Gray S, Pickering R, Tikellis C, de Gaetano M, Barry M, Belton O, Ali-Shah ST, Guiry P, Jandeleit-Dahm KA, Cooper ME, Godson C, Kantharidis P.

*Diabetes*. 2017 Aug;66(8):2266-2277. PMID: 28487436

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## 大腸炎モデルへのsiRNA投与

**Pivotal Role of Carbohydrate Sulfotransferase 15 in Fibrosis and Mucosal Healing in Mouse Colitis.**

Suzuki K, Arumugam S, Yokoyama J, Kawachi Y, Honda Y, Sato H, Aoyagi Y, Terai S, Okazaki K, Suzuki Y, Mizumoto S, Sugahara K, Atreya R, Neurath MF, Watanabe K, Hashiguchi T, Yoneyama H, Asakura H.

*PLoS One*. 2016 Jul 13;11(7):e0158967. PMID: 27410685

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## 下肢虚血モデルへのsiRNA投与

**Functional MMP-10 is required for efficient tissue repair after experimental hind limb ischemia.**

Gomez-Rodriguez V, Orbe J, Martinez-Aguilar E, Rodriguez JA, Fernandez-Alonso L, Serneels J, Bobadilla M, Perez-Ruiz A, Collantes M, Mazzone M, Paramo JA, Roncal C.

*FASEB J*. 2015 Mar;29(3):960-72. PMID: 25414484

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