



I. ORIGINAL WORK

corresponding author, * equal contributions

2021

Sundermann, J., Sydow, S., Burmeister, L., **Hoffmann, A.**, Menzel, H., Bunjes, H. (2021):
ELISA- and Activity Assay-Based Quantification of BMP-2 Released In Vitro Can Be Biased by
Solubility in Physiological Buffers and an Interfering Effect of Chitosan.
Pharmaceutics. 13(4):582

Oelze, B., Elger, K., Schadzek, P., Burmeister, L., Hamm, A., Laggies, S., Seiffart, V., Gross,
G., **Hoffmann, A.**# (2021):
The inflammatory signalling mediator TAK1 mediates lymphocyte recruitment to
lipopolysaccharide-activated murine mesenchymal stem cells through interleukin-6.
Mol Cell Biochem. 476(10):3655-3670

Segovia-Trinidad, C.L., Quaas, B., Li, Z., Lavrentieva, A., Roger, Y., Scheper, T., **Hoffmann, A.**,
Rinas, U. (2021):
Refolding, purification, and characterization of constitutive-active human-Smad8 produced as
inclusion bodies in ClearColi® BL21 (DE3).
Protein Expr Purif. 184:105878

Sundermann, J., Oehmichen, S., Sydow, S., Burmeister, L., Quaas, B., Hänsch, R., Rinas, U.,
Hoffmann, A., Menzel, H., Bunjes, H. (2021):
Varying the sustained release of BMP-2 from chitosan nanogel-functionalized polycaprolactone
fiber mats by different polycaprolactone surface modifications.
J Biomed Mater Res A;109:600-61

Sundermann, J., Oehmichen, S., Sydow, S., Burmeister, L., Quaas, B., Hänsch, R., Rinas, U.,
Hoffmann, A., Menzel, H., Bunjes, H. (2021):
Varying the sustained release of BMP-2 from chitosan nanogel-functionalized polycaprolactone
fiber mats by different polycaprolactone surface modifications.
J Biomed Mater Res A;109:600-614

2020

Roger, Y., Sydow, S., Burmeister, L., Menzel, H., **Hoffmann, A.**# (2020):
Sustained release of TGF- β_3 from polysaccharide nanoparticles induces chondrogenic
differentiation of human mesenchymal stromal cells.
Colloids Surf B Biointerfaces;189:110843

Roger, Y., Burmeister, L., Hamm, A., Elger, K., Dittrich-Breiholz, O., Flörkemeier, T.*,
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Heparin Anticoagulant for Human Bone Marrow Does Not Influence In Vitro Performance of
Human Mesenchymal Stromal Cells.
Cells;9(7):E1580.



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Cell culture media notably influence properties of human mesenchymal stroma/stem-like cells from different tissues.

Cytotherapy;22:653-668

Gniesmer, S., Brehm, R., **Hoffmann, A.**, de Cassan, D., Menzel, H., Hoheisel, A.-L., Glasmacher, B., Willbold, E., Reifenrath, J., Ludwig, N., Zimmerer, R., Tavassol, F., Gellrich, N.-C., Kampmann, A. **(2020):**

Vascularization and biocompatibility of poly(ϵ -caprolactone) fiber mats for rotator cuff tear repair. PLoS One;15(1):e0227563.

Schwieger, J., Hamm, A., Gepp, M.M., Schulz, A., **Hoffmann, A.**, Lenarz, T., Scheper, V. **(2020):** Alginate-encapsulated Brain Derived Neurotrophic Factor-overexpressing mesenchymal stem cells are a promising drug delivery system for protection of auditory neurons.

J Tissue Eng.;11:1-15

De Cassan, D., Becker, A., Glasmacher, B., Roger, Y., **Hoffmann, A.**, Gengenbach, T.R., Easton, C. D., Hänsch, R., Menzel, H. **(2020):**

Blending chitosan-g-poly(caprolactone) with poly(caprolactone) by electrospinning to produce functional fiber mats for tissue engineering applications.

J Appl Polym Sci; DOI: 10.1002/APP.48650

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Gap junction dependent cell communication is modulated during transdifferentiation of mesenchymal stem/stromal cells towards neuron-like cells.

Front Cell Dev Biol;8:869

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Possibilities and limitations of electrospun chitosan-coated polycaprolactone grafts for rotator cuff tear repair

J Tissue Eng Regen Med;14(1):186-197.

2019

Gniesmer, S., Brehm, R., **Hoffmann, A.**, de Cassan, D., Menzel, H., Hoheisel, A.L., Glasmacher, B., Willbold, E., Reifenrath, J., Wellmann, M., Ludwig, N., Tavassol, F., Zimmerer, R., Gellrich, N.C., Kampmann, A. **(2019):**

In vivo analysis of vascularization and biocompatibility of electrospun polycaprolactone fibre mats in the rat femur chamber.

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Stem Cell Based Drug Delivery for Protection of Auditory Neurons in a Guinea Pig Model of Cochlear Implantation.

Front Cell Neurosci.;13:177

Scheper, V., Schwieger, J., Hamm, A., Lenarz, T., **Hoffmann, A. (2019):**

BDNF-overexpressing human mesenchymal stem cells mediate increased neuronal protection in vitro.

J Neurosci Res;97(11):1414-1429

Quaas, B, Burmeister, L., Li, Z., Satalov, A., Behrens, P., **Hoffmann, A., Rinas, U. (2019):**

Stability and biological activity of E. coli derived soluble and precipitated bone morphogenetic protein-2.

Pharm Res;36(12):184

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Myc/Max dependent intronic long antisense noncoding RNA, EVA1A-AS, suppresses the expression of Myc/Max dependent anti-proliferating gene EVA1A in a U2 dependent manner.

Sci Rep;9(1):17319

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Hoffmann, A., Stangel, M., Baumgärtner, W., Hansmann, F. (2018):

Mesenchymal Stem Cells Form 3D Clusters Following Intraventricular Transplantation.

J Mol Neurosci;65(1):60-73

Quaas, B., Burmeister, L., Li, Z., Nimtz, M., **Hoffmann, A., Rinas, U. (2018):**

Properties of dimeric, disulfide-linked rhBMP-2 recovered from E. coli derived inclusion bodies by mild extraction or chaotropic solubilisation and subsequent refolding.

Process Biochem;67:80-87

De Cassan, D., Sydow, S., Schmidt, N., Behrens, P., Roger, Y., **Hoffmann, A.,** Hoheisel, A-L.,

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Attachment of nanoparticulate drug-release systems on poly(ϵ -caprolactone) nanofibers via a graftpolymer as interlayer

Colloids Surf B Biointerfaces;163:309-320

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Differential expression of cholinergic system components in human induced pluripotent stem cells, bone marrow-derived multipotent stromal cells, and induced pluripotent stem cell-derived multipotent stromal cells.

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Schulze, J., Kaiser, O., Paasche, G., Lamm, H., Pich, A., **Hoffmann, A.,** Lenarz, T., Warnecke, A. (2017):



Effect of hyperbaric oxygen on BDNF-release and neuroprotection: Investigations with human mesenchymal stem cells and genetically modified NIH3T3 fibroblasts as putative cell therapeutics. PLoS One;12:e0178182

Rahim, M. I., Weizbauer, A., Evertz, F., **Hoffmann, A.**, Rohde, M., Glasmacher, B., Windhagen, H., Gross, G., Seitz, J.-M., Müller, P. P. (2017):
Differential magnesium implant corrosion coat formation and contribution to bone bonding. Journal of Biomedical Materials Research Part A;105:697-709

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Schäck, L., Budde, S., Lenarz, T., Krettek, C., Gross, G., Windhagen, H., **Hoffmann, A.***, Warnecke A.* (2016):
[Induction of neuronal-like phenotype in human mesenchymal stem cells by overexpression of Neurogenin1 and treatment with neurotrophins.](#)
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Roger, Y., Schäck, L.M., Koroleva, A., Noack, S., Kurselis, K., Krettek, C., Chichkov, B., Lenarz, T., Warnecke, A.*, **Hoffmann, A.*** (2016):
Grid-like surface structures in thermoplastic polyurethane induce anti-inflammatory and anti-fibrotic processes in bone marrow-derived mesenchymal stem cells.
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Saran, S., Tran, D.D.H., Ewald, F., Koch, A., **Hoffmann, A.**, Koch, M., Nashan, B., Tamura, T. (2015):
Depletion of three combined THOC5 mRNA export protein target genes synergistically induces human hepatocellular carcinoma cell death.
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Expression of CD24 in human bone marrow-derived mesenchymal stromal cells is regulated by TGF- β_3 and induces a myofibroblast-like genotype.
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Mesenchymal stem cells do not exert direct beneficial effects on CNS remyelination in the absence of the peripheral immune system.
Brain Behaviour and Immunity;50:155-165

Pogozhykh, O., Pogozhykh, D., Neehus, A.-L., **Hoffmann, A.**, Blasczyk, R., Müller, T. (2015):
Molecular and cellular characteristics of human and non-human primate multipotent stromal cells from the amnion and bone marrow during long term culture.
Stem Cell Res Ther;6:150



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Noack, S., Seiffart, V., Willbold, E., Laggies, S., Winkel, A., Shahab-Osterloh, S., Flörkemeier, T., Hertwig, F., Steinhoff, C., Nuber, U.A., Gross, G.*, **Hoffmann, A*#**. (2014):
Periostin secreted by mesenchymal stem cells supports tendon formation in an ectopic mouse model.
Stem Cells Dev;23:1844-1857

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Drug-induced trafficking of P-glycoprotein in human brain capillary endothelial cells.
PLoS One;9:e88154

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Effects of murine and human bone marrow-derived mesenchymal stem cells on cuprizone induced demyelination.
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The phosphate source influences gene expression and quality of mineralization during in vitro osteogenic differentiation of human mesenchymal stem cells.
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Stable release of BDNF from the fibroblast cell line NIH3T3 grown on silicone elastomers enhances survival of spiral ganglion cells in vitro and in vivo.
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Thorey, F., Weinert, K., Weizbauer, A., Witte, F., Willbold, E., Bartsch, I., **Hoffmann, A.**, Gross, G., Lorenz, C., Menzel, H., Windhagen, H. (2011):

Coating of titanium implants with copolymer supports bone regeneration: a comparative in vivo study in rabbits.

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Amino-modified silica surfaces efficiently immobilize Bone Morphogenetic Protein 2 (BMP2) for medical purposes.

Acta Biomaterialia;7:1772-1779

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Coating of titanium implant materials with thin polymeric films for binding the signalling protein BMP2.

Macromolecular Bioscience;11:234-244

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Osseointegration by bone morphogenetic protein-2 and transforming growth factor beta2 coated titanium implants in femora of New Zealand white rabbits.

Indian Journal of Orthopaedics;45:57-62

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Stem Cells;28:1590-1601

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Elucidation of Its Complete Amino Acid and cDNA Sequences.
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II. Review Articles

Friese, N., Gierschner, M.B., Schadzek, P., Roger, Y., **Hoffmann, A. (2020)**:
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[Comparison of in vitro-cultivation of human mesenchymal stroma/stem cells derived from bone marrow and umbilical cord.](#)
J Tissue Eng Regen Med; 11(9):2565-2581

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Pathobiology;80:203-210. Special Topic Issue „Application of Novel Biomaterials in Clinical
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III. Contributions in Books

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