

Book Chapters

1. Selzer D, **Schaefer UF**, Lehr CM, Hansen S, Basic Mathematics in Skin Absorption, in Percutaneous Penetration Enhancers Drug Penetration Into/Through the Skin, edited by Dragicevic N, Maibach HI, DOI 10.1007/978-3-662-53270-6_1 (2017)
2. **Schaefer UF**, Selzer D, Hansen S, Lehr CM, Human Native and Reconstructed Skin Preparations for In Vitro Penetration and Permeation Studies, in Percutaneous Penetration Enhancers Drug Penetration Into/Through the Skin, edited by Dragicevic N, Maibach HI, DOI 10.1007/978-3-662-53270-6_10 (2017)
3. Melero A, Hahn T, **Schaefer UF**, Schneider M, In vitro human skin segmentation and drug concentration.skin depth profiles, in Permeability Barrier: Methods in Molecular Biology, vol 763, edited by Kursad Turksen, DOI 10.1007/978-1-61779-191-8_2 (2011)
4. **Schaefer UF**, Lipold BC, Leopold CS, Formulation Issues, Chapter 7, in Drugs and the Pharmaceutical Sciences, Vol. 177, Dermal Absorption and Toxicity assessment, second edition, edited by Roberts MS, Walters, KA, Informa Healthcare, New York, USA
5. **Schaefer UF**, Schneele J, Schmitt S, Reichling J, Efficacy, Absorption, and Safety of Essential Oils, Chapter 24, in Dermatologic, Cosmeceuticals, and Cosmetic Development: Therapeutic and Novel Approaches, edited by Walters KA, Roberts MS, Informa Healthcare, New York, USA
6. **Schaefer UF**, Hansen S, Schneider M, Luengo Contreras J, Lehr C-M, Models for Skin Absorption and Skin Toxicology Testing, Chapter 1, in Drug Absorption Studies In Situ, In Vitro and In Silico Models, edited by Ehrhardt C and Kim K-J, AAPS Press Springer, New York
7. Wagner H, Zghoul N, Lehr C-M, **Schaefer UF**, Human Skin Skin Equivalents to Study Dermal Penetration and Permeation, Chapter 17, in Cell Culture Models of Biological Barriers, In-Vitro Test Systems for Drug Absorption and Delivery, edited by Lehr C-M, Taylor & Francis, London and New York (2002)
8. Ehrhardt C, Fuchs S, Abu-Dahab R, **Schaefer UF**, Lehr CM, Arzneistoffabsorption durch die Lungenschleimhaut – Zellkulturmodelle und partikuläre Arzneistoffträger, in Aerosole in der Inhalationstherapie, edited by Scheuch G, Dustri-Verlag, Muenchen, ISBN3-87185-325-9 (2002)

Papers in refereed journals

2017

1. Vukosavljevic B, Murgia X, Schwarzkopf K, **Schaefer UF**, Lehr CM, Windbergs M, Tracing molecular and structural changes upon mucolysis with N-acetyl cysteine in human airway mucus, International Journal of Pharmaceutics, 533, 373-376 (2017)
2. Murgia X, Yasar H, Carvalho-Wodarz C, Loretz B, Gordon S, Schwarzkopf K, **Schaefer U**, Lehr CM, Modelling the bronchial barrier in pulmonary drug delivery: A human bronchial epithelial cell line supplemented with human tracheal mucus, European Journal of Pharmaceutics and Biopharmaceutics, 118, 79-88 (2017)
3. Gross A, Torge A, **Schaefer UF**, Schneider M, Lehr CM, Wagner C, A foam model highlights the differences of the macro- and microrheology of respiratory horse mucus, Journal of the Mechanical Behavior of Biomedical Material, 71, 2016-222 (2017)
4. Ernst M, John T, Guenther M, Wagner C, **Schaefer UF**, Lehr CM, A Model for the Transient Subdiffusive Behavior of Particles in Mucus, Biophysical Journal 112, 172-179 (2017)

2016

5. Mathes C, Melero A, Conrad P, Vogt T, Rigo L, Selzer D, Prado WA, De Rossi C, Garrigues TM, Hansen S, Guterres SS, Pohlmann AR, Beck RCR, Lehr CM, **Schaefer UF**, Nanocarriers for optimizing the balance between interfollicular permeation and follicular uptake of topical applied clobetasol to minimize adverse effects, Journal of Controlled Release, 223, 207-214 (2016)
6. Mathes C, Brandner JM, Laue M, Raesch SS, Hansen S, Failla AV, Vidal S, Moll I, **Schaefer UF**, Lehr CM, Tight junctions form a barrier in porcine hair follicles, European Journal of Cell Biology, 95, 89-99 (2016)
7. Wohlleben W, Driessen MD, Raesch S, **Schaefer UF**, Schulze C, von Vacano B, Vennemann A, Wiemann M, Ruge CA, Platsch H, Mues S, Ossig R, Tomm JM, Schnekenburger J, Kuhlbusch TAJ, Luch A, Lehr CM, Haase A, Influence of agglomeration and specific lung lining lipid/protein interaction on short-term inhalation toxicity, Nanotoxicology doi.org/10.3109/17435390.2016.1155671
8. Bokkasam H, Ernst M, Guenther M, Wagner C, **Schaefer UF**, Lehr CM, Different macro- and micro-rheological properties of native porcine respiratory and intestinal mucus, International Journal of Pharmaceutics 510 (1) 1-12 (2016)

9. Knorr F, Patzelt A, Darvin ME, Lehr CM, **Schaefer UF**, Gruber AD, Ostrowski A, Lademann J, Penetration of topically applied nanocarriers into the hair follicles of dog and rat dorsal skin and porcine ear skin, Veterinary Dermatology, DOI: 10.1111/vde.12325 (2016)

2015

10. Selzer D, Neumann D, Neumann H, Kostka K-H, Lehr CM, **Schaefer UF**, A strategy for in-silico prediction of skin absorption in man, European Journal of Pharmaceutics and Biopharmaceutics (2015), DOI 10.1016/e.jpb.2015.05.002
11. Reasch SS, Tenzer S, Storck W, Rurainski A, Selzer D, Ruge CA, Perez-Gil J, **Schaefer UF**, Lehr CM, Proteomic and Lipidomic Analysis of Nanoparticle Corona upon Contact with Lung Surfactant Reveals Differences in Protein, but Not Lipid Composition, ACSNano (2015), DOI 10.1021/acsnano.Sb04215
12. Selzer D, Neumann D, **Schaefer UF**, Mathematical models for dermal drug delivery, Expert Opin. Drug Metab. Toxicol 11 (10) 1-17 (2015)

2014

13. Gantzsch SP, Kann B, Ofer-Glaesgen M, Loos P, Berchtold H, Balbach S, Eichinger T, Lehr CM, **Schaefer UF**, Windbergs M, Characterization and evaluation of a modified PVPA barrier in comparison to Caco-2 cell monolayers for combined dissolution and permeation testing, Journal of Controlled Release, (2014) DOI 10.1016/j.conrel.2013.12.009
14. Melero A, Ourique AF, Staniscuaski Guterres S, Raffin Pohlmann A, Lehr CM, Beck RCR, **Schaefer UF**, Nanoencapsulation in Lipid.Core Nanocapsules Controls Mometasone Fuorate Skin Permeability Rate and Its Penetration to th Deeper Skin Layers, Skin Pharmacology and Physiology 27 217-228 (2014) DOI 10.1159/000354921
15. Gomez-Mantilla JD, **Schaefer UF**, Casbo VG, Lehr T, Lehr CM, Statistical Comparison of Dissolution Profiles to Predict the Bioequivalence of Extended Release Formulations, AAPS Journal. 16 (4), 791-801 (2014)
16. Raber A, Mittal A, Schaefer J, Bakowsky U, Reichrath J, Vogt T, **Schaefer UF**, Hansen S, Lehr CM, Quantification of nanoparticle uptake into hair follicles in pig ear and human forearm, Journal of Controlled Release, 179 25-32 (2014)

2013

17. Mittal A, Raber AS, **Schaefer UF**, Weissmann S, Ebensen T, Schulze k, Guzman CA, Lehr CM, Hansen S, Non-invasive delivery of nanoparticles to hair follicles: A perspective for transcutaneous immunization, Vaccine 31 (34) 3442-3451 (2013), DOI 10.1016/j.vaccine.2012.12048

- 18.** Hansen S, Lehr CM, **Schaefer UF**, Improved input parameters for diffusion models in skin absorption, Advanced Drug Delivery Reviews 65, 251-264 (2013)
- 19.** Selzer D, Abdel-Mottaleb MA, Hahn T, **Schaefer UF**, Neumann D, Finite and infinite dosing: Difficulties in measurements, evaluations and predictions, Advanced Drug Delivery Reviews 65, 278-294
- 20.** Hansen S, Lehr CM, **Schaefer UF**, Modeling the human skin barrier – Towards a better understanding of dermal absorption, Advanced Drug Delivery Reviews 65, 149-151 (2013)
- 21.** Gomez-Mantilla JD, Casabo VG, **Schaefer UF**, Lehr C-M, Permutation Test (PT) and Tolerated Difference Test (TDT): Two New, Robust and Powerful nonparametric Tests for Comparison of Dissolution Profiles, International Journal of Pharmaceutics 441 (1-2) 458-467
- 22.** Franzen, L, Vidlarova L, Kostka KH, **Schaefer UF**, Windbergs M, Freezedrying as a preserving preparation technique for in vitro testing of human skin, Experimental Dermatology, 20, 54-80 (2013)
- 23.** Selzer D, Hahn T, Naegel A, Heisig M, Kostka KH, Lehr C-M, Neumann D, **Schaefer UF**, Wittum G, Finite dose skin mass balance including the lateral part: Comparison between experiment, pharmacokinetic modeling and diffusion models, Journal of Controlled Release 165, 119-128 (2013)
- 24.** Naegel A, Hahn T, **Schaefer UF**, Heisig M, Wittum G, Finite dose skin penetration: a comparison of concentration-depth profiles from experiment and simulation, Comput. Visual Sci, DOI 10.10007/s00791-012-0186-8
- 25.** Franzen, L, Selzer D, Fluhr J, **Schaefer UF**, Windbergs M, Towards drug quantification in human skin with confocal Raman microscopy, European Journal of Pharmaceutics and Biopharmaceutics, 84 (2) 437-444, DOI 10.1016/j.EJPB.2012.11.017 (2013)
- 26.** Schneider M, Windbergs M, Daum N, Loretz B, Collnot E-M, Hansen S, **Schaefer UF**, Lehr CM, Crossing biological barriers for advanced drug delivery, European Journal of Pharmaceutics and Biopharmaceutics, 84, 239-241 (2013)
- 27.** Windbergs M, Hansen S, Schroeter A, **Schaefer UF**, Lehr CM, Bouwstra J, From the structure of the skin barrier and dermal formulations to in vitro transport models for skin absorption: Skin research in the Netherland and Germany, Skin Pharmacology and Physiology 26 (4-6) 317-330 (2013)

2012

- 28.** Kirch J, Guenther M, Doshi N, **Schaefer UF**, Schneider M, Mitragotri S, Lehr C-M, Mucociliary Clearance of Micro- and Nanoparticles is Independent of Size, Shape and Charge – An Ex Vivo and In Silico Approach,

29. Kirch J, Schneider A, Abou B, Hopf A, **Schaefer UF**, Schneider M, Schall C, Wagner C, Lehr C-M, Optical tweezers clarify relationship between microstructure and nanoparticle penetration of pulmonary mucus, PNAS, 109 (45), 18355-18360
30. Kirch J, Guenther M, **Schaefer UF**, Schneider M, Lehr C-M, Claus-Michael Lehr Computational Fluid Dynamics of Nanoparticle Disposition in the Airways: Mucus Interactions and Mucociliary Clearance, Computing and Visualization in Science, (2012), DOI 10.1007/s00791-012-0184-x
31. Ruge C, **Schaefer UF**, Herrmann J, Kirch J, Canadas O, Echaide M, Pérez-Gil J, Casals C, Müller R, Lehr C-M, The Interplay of Lung Surfactant Proteins and Lipids Assimilates the Macrophage Clearance of Nanoparticles, PLoS ONE 7 (7), 1-10
32. Schaefer J, Schulze C, Marxer E, **Schaefer UF**, Wohlleben W, Bakowsky U, Lehr C-M, Atomic Force Microscopy and Analytical Ultracentrifugation for Probing Nanomaterial Protein Interactions, ACS Nano 6 (6) 4603-4614
33. Nafee N, Schneider M, Friebel K, Dong M, **Schaefer UF**, Mürdter T, Lehr C-M, Treatment of lung cancer via telomerase inhibition: Self-assembled nanoplexes versus polymeric nanoparticles as vectors for 20-O-Methyl-RNA, European Journal of Pharmaceutics and Biopharmaceutics 80, 478–489
34. Hahn T, Selzer D, Neumann D, Kostka K-H Lehr C-M, **Schaefer UF**, Influence of the application area on finite dose permeation in relation to drug type applied, Experimental Dermatology, 21, 221–235
35. Ruge, C., Kirch, J., Canadas, O., Schneider, M., Perez-Gil, J., **Schaefer, U.F.**, Casals, C., Lehr, C-M. Uptake of nanoparticles by alveolar macrophages is triggered by surfactant protein A Nanomedicine: Nanotechnology, Biology, and Medicine, accepted article
36. Dong M, Mürdter TE, Philippi C, Loretz B, **Schaefer U.F.**, Lehr C-M, Schwab W, Ammon-Treiber S, Pulmonary delivery and tissue distribution of aerosolized antisense 2'-O-Methyl RNA containing nanoplexes in the isolated perfused and ventilated rat lung, European Journal of Pharmaceutics and Biopharmaceutics, 81, 478-485
37. Dong, M., Philippi, C., Loretz, B., Nafee, N., **Schaefer, U.F.**, Friedel, G., Ammon-Treiber, S., Giese, E-U., Lehr, C-M., Klotz, U., Mürdter, T.E., Tissue slice model of human lung cancer to investigate telomerase inhibition by nanoparticle delivery of antisense 2'-O-methyl-RNA International Journal of Pharmaceutics, 80 (3), 478-485
38. Ourique AF, Contri RV, Guterres SS, Beck RCR, Raffin Pohlmann A, Melero A, **Schaefer UF**, Set-up of a Method Using LC-UV to Assay

Mometasone Fuorate in Pharmaceutical Dosage Forms, Quim. Nova, vol 35 (4), 818-821 (2012)

2011:

39. Hahn T, Selzer D, Neumann D, **Schaefer UF**, Das geht unter die Haut: Aufbau der humanen Haut und mögliche Invasionswege, PZ Prisma, 18, 35-43 (2011)
40. Melero A, Hahn T, **Schaefer UF**, Schneider M, In vitro human skin segmentation and drug concentration-skin depth profiles. Methods Mol Biol 763, 33-50
41. Ourique, A.F., Melero, A., de Bona da Silva, C., **Schaefer, U.F.**, Pohlmann, A.R., Guterres, S.S., Lehr, C-M., Kostka, K-H., Beck, R.C.R. Improved photostability and reduced skin permeation of tretinoin: development of a semisolid manomedicine European Journal of Pharmaceutics and Biopharmaceutics, 79 (20), 95-101
42. Hein, S., Bur, M., **Schaefer, U.F.**, Lehr, C.-M. A new Pharmaceutical Aerosol Deposition Device on Cell Cultures (PADDODC) to evaluate pulmonary drug absorption for metered dose dry powder formulations European Journal of Pharmaceutics and Biopharmaceutics, 77, 132-138
43. Patzelt, A., Richter. H., Knorr, F., **Schaefer, U.F.**, Lehr, C.-M., Dähne, L., Sterry, W., Lademann, J. Selective follicular targeting by modification of the particle sizes Journal of Controlled Release, 150, 45-48.
44. Hansen, S., Selzer, D., **Schaefer, U.F.**, Kasting, G.B. An Extended Database of Keratin Binding Journal of Pharmaceutical Sciences, 100, 1712-1726
45. Dong M, Philipi C, Loretz B, Nafee N, **Schaefer UF**, Friedel G, Ammon-Treiber S, Griese EU, Lehr C-M, Klotz U, Mürdter T, Tissue slice model of human lung cancer to investigate telomerase inhibition by nanoparticle delivery of antisense 2'-O-methyl-RNA, International Journal of Pharmaceutics, 419 (1-2), 33-42
46. Schulze, C, **Schaefer UF**, Voetz M, Wohlleben W, Venzago C, Lehr CM, Transport of metal oxide nanoparticles across Calu-3 cell monolayers modeling the air-blood barrier, Euro-NanoTox-Letters 001, 1-11 (2011)
47. Schulze, C., **Schaefer UF.**, Ruge, C.A., Wohlleben, W., Lehr, C-M. Interaction of metal oxides nanoparticles with lung surfactant protein A, European Journal of Pharmaceutics and Biopharmaceutics, 77, 376-383

48. Lehr CM, Daum N, Schneider M, Schaefer U, Biological barriers – A need for novel tools in nanotoxicology and nanomedicine, European Journal of Pharmaceutics and Biopharmaceutics, 77, 337

2010:

- 49.** Maurer, F., Daum, N., **Schaefer, U.F.**, Lehr, C.-M., Bauer, P.
Plant genetic factors for iron homeostasis affect iron bioavailability in Caco-2 cells
Food Research International, 43, 1661-1665
- 50.** Hein, S., Bur, M., Kolb, T., Muelling, B., **Schaefer, U.F.**, Lehr, C.-M.
The Pharmaceutical Aerosol Deposition Device On Cell Cultures (PADDODC) In Vitro System: Design and Experimental Protocol
ATLA, 38, 285-295
- 51.** Philippi, C., Loretz, B., **Schaefer, U.F.**, Lehr, C.M.
Telomerase as an emerging target to fight cancer - Opportunities and challenges for nanomedicine
Journal of Controlled Release. 146, 228-240
- 52.** Hahn T, Schaefer UF, Lehr CM, Measuring Skin Absorption in vitro, SOFW Journal English Edition, 136, 28-40 (2010)
- 53.** Schmitt, S., **Schaefer, U.F.**, Sporer, F., Reichling, J.
Comparative study on the in vitro human skin permeation of monoterpenes and phenylpropanoids allied in rose oil and in form of neat single compounds
Pharmazie, 65 (2), 102-105.
- 54.** Collnot, E.-M., Baldes, C., **Schaefer, U.F.**, Edgar, K.J., Wempe, M.F., Lehr, C.-M.
Vitamin e TPGS P-glycoprotein inhibition mechanism: Influence on conformational flexibility, intracellular ATP levels, and role of time and site of access
Molecular Pharmaceutics, 7 (3), 642-651.
- 55.** Muendoerfer, M., **Schaefer, U.F.**, Koenig, P., Walk, J.S., Loos, P., Balbach, S., Eichinger, T., Lehr, C.-M.
Online monitoring of transepithelial electrical resistance (TEER) in an apparatus for combined dissolution and permeation testing
International Journal of Pharmaceutics, 392 (1-2), 134-140.
- 56.** Schmitt, S., **Schaefer, U.F.**, Döbler, L., Reichling, J.
Variation of in vitro human skin permeation of rose oil between different application sites
Forschende Komplementarmedizin, 17 (3), 126-131.
- 57.** Hahn, T., Hansen, S., Neumann, D., Kostka, K.-H., Lehr, C.-M., Muys, L., **Schaefer, U.F.**

Infrared densitometry: A fast and non-destructive method for exact stratum corneum depth calculation for in vitro tape-stripping
Skin Pharmacology and Physiology, 23 (4), 183-192.

58. Melero, A., Lehr, C.-M., **Schaefer, U.F.**, Garrigues, T.M.
Wistar rat skin as surrogate for human skin in nortriptyline hydrochloride patch studies
International Journal of Pharmaceutics, 384 (1-2), 137-139.
59. Santander-Ortega, M.J., Stauner, T., Loretz, B., Ortega-Vinuesa, J.L.,
Bastos-González, D., Wenz, G., **Schaefer, U.F.**, Lehr, C.M.
Nanoparticles made from novel starch derivatives for transdermal drug delivery
Journal of Controlled Release, 141 (1), 85-92.
60. Khvedelidze, M., Mdzinarashvili, T., Partskhaladze, T., Nafee, N.,
Schaefer, U.F., Lehr, C.M., Schneider, M.
Calorimetric and spectrophotometric investigation of PLGA nanoparticles and their complex with DNA
Journal of Thermal Analysis and Calorimetry, 99 (1), 337-348.
61. Gratieri, T., **Schaefer, U.F.**, Jing, J., Gao, M., Kostka, K.-H., Lopez, R.F.V.,
Schneider, M.,
Penetration of Quantum Dot Particles Through Human Skin
J Biomedical Nanotechnology, 6, 586-595

2009:

62. Schmitt, S., **Schaefer, U.F.**, Doebler, L., Reichling, J.
Cooperative interaction of monoterpenes and phenylpropanoids on the in vitro human skin permeation of complex composed essential oils
Planta Medica, 75 (13), 1381-1385
63. Nafee, N., Schneider, M., **Schaefer, U.F.**, Lehr, C.-M.
Relevance of the colloidal stability of chitosan/PLGA nanoparticles on their cytotoxicity profile
International Journal of Pharmaceutics, 381 (2), 130-139.
64. Melero, A., Garrigues, T.M., Alós, M., Kostka, K.H., Lehr, C.M., **Schaefer, U.F.**
Nortriptyline for smoking cessation: Release and human skin diffusion from patches
International Journal of Pharmaceutics, 378 (1-2), 101-107
65. Taetz, S., Bochot, A., Surace, C., Arpicco, S., Renoir, J.-M., **Schaefer, U.F.**, Marsaud, V., Kerdine-Roemer, S., Lehr, C.-M., Fattal, E.
Hyaluronic acid-modified DOTAP/DOPE liposomes for the targeted delivery of anti-telomerase siRNA to CD44-expressing lung cancer cells
Oligonucleotides, 19 (2), 103-115

- 66.** Henning, A., **Schaefer, U.F.**, Neumann, D.
Potential pitfalls in skin permeation experiments: Influence of experimental factors and subsequent data evaluation; European Journal of Pharmaceutics and Biopharmaceutics, 72 (2), 324-331
- 67.** Taetz, S., Nafee, N., Beisner, J., Piotrowska, K., Baldes, C., Mürdter, T.E., Huwer, H., Schneider, M., **Schaefer, U.F.**, Klotz, U., Lehr, C.-M.
The influence of chitosan content in cationic chitosan/PLGA nanoparticles on the delivery efficiency of antisense 2'-O-methyl-RNA directed against telomerase in lung cancer cells; European Journal of Pharmaceutics and Biopharmaceutics, 72 (2), 358-369
- 68.** Hansen, S., Naegel, A., Heisig, M., Wittum, G., Neumann, D., Kostka, K.-H., Meiers, P., Lehr, C.-M., **Schaefer, U.F.**
The role of corneocytes in skin transport revised-a combined computational and experimental approach, Pharmaceutical Research, 26 (6), 1379-1397.

2008:

- 69.** Taetz, S., Mürdter, T.E., Za, J., Boettcher, S., Baldes, C., Kleideiter, E., Piotrowska, K., **Schaefer, U.F.**, Klotz, U., Lehr, C.-M.
Decomposition of the Telomere-Targeting agent BRACO19 in physiological media results in products with decreased inhibitory potential
International Journal of Pharmaceutics, 357 (1-2), 6-14.
- 70.** Melero, A., Garrigues, T.M., Almudever, P., Villodre, A.M., Lehr, C.M., **Schaefer, U.F.**, Nortriptyline hydrochloride skin absorption: Development of a transdermal patch European Journal of Pharmaceutics and Biopharmaceutics, 69 (2), 588-596
- 71.** Schulze, C., Kroll, A., Lehr, C.-M., **Schaefer, U.F.**, Becker, K., Schnekenburger, J., Schulze Isfort, C., Landsiedel, R., Wohlleben, W.
Not ready to use - Overcoming pitfalls when dispersing nanoparticles in physiological media, Nanotoxicology, 2 (2), 51-61
- 72.** Kaca, M., Bock, U., Jalal, M.T., Harms, M., Hoffmann, C., Müller-Goymann, C., Netzlaff, F., **Schaefer, U.F.**, Lehr, C.-M., Haltner-Ukomadu, E.
The physicochemical parameters of marker compounds and vehicles for use in in vitro percutaneous absorption studies
ATLA Alternatives to Laboratory Animals, 36 (2), 189-200
- 73.** Schäfer-Korting, M., Bock, U., Diembeck, W., Düsing, H.-J., Gamer, A., Haltner-Ukomadu, E., Hoffmann, C., Kaca, M., Kamp, H., Kersen, S., Kietzmann, M., Korting, H.C., Krächter, H.-U., Lehr, C.-M., Liebsch, M., Mehling, A., Müller-Goymann, C., Netzlaff, F., Niedorf, F., Rübbelke, M.K., **Schaefer, U.F.**, Schmidt, E., Schreiber, S., Spielmann, H., Vuia, A., Weimer, M., The use of reconstructed human epidermis for skin absorption testing: Results of the validation study, ATLA Alternatives to Laboratory Animals, 36 (2), 161-187

- 74.** Naegel, A., Hansen, S., Neumann, D., Lehr, C.-M., **Schaefer, U.F.**, Wittum, G., Heisig, M., Erratum to "In-silico model of skin penetration based on experimentally determined input parameters. Part II: Mathematical modelling of in-vitro diffusion experiments. Identification of critical input parameters" [Eur. J. Pharm. Biopharm. 68 368-379] European Journal of Pharmaceutics and Biopharmaceutics, 68 (3), 846.
- 75.** Henning, A., Neumann, D., Kostka, K.-H., Lehr, C.-M., **Schaefer, U.F.** Influence of human skin specimens consisting of different skin layers on the result of in vitro permeation experiments Skin Pharmacology and Physiology, 21 (2), 81-88
- 76.** Becker, U., Ehrhardt, C., Schneider, M., Muys, L., Gross, D., Eschmann, K., **Schaefer, U.F.**, Lehr, C.-M., A comparative evaluation of corneal epithelial cell cultures for assessing ocular permeability ATLA Alternatives to Laboratory Animals, 36 (1), 33-44
- 77.** Hansen, S., Henning, A., Naegel, A., Heisig, M., Wittum, G., Neumann, D., Kostka, K.-H., Zbytovska, J., Lehr, C.-M., **Schaefer, U.F.** In-silico model of skin penetration based on experimentally determined input parameters. Part I: Experimental determination of partition and diffusion coefficients, European Journal of Pharmaceutics and Biopharmaceutics, 68 (2), 352-367
- 78.** Naegel, A., Hansen, S., Neumann, D., Lehr, C.-M., **Schaefer, U.F.**, Wittum, G., Heisig, M., In-silico model of skin penetration based on experimentally determined input parameters. Part II: Mathematical modelling of in-vitro diffusion experiments. Identification of critical input parameters, European Journal of Pharmaceutics and Biopharmaceutics, 68 (2), 368-379

2007:

- 79.** Stracke, F., Schneider, M., Weiss, B., Lehr, C.-M., **Schaefer, U.F.**, König, K., Multiphoton microscopy for the investigation of trans-cutaneous drug delivery, (2007) *Progress in Biomedical Optics and Imaging - Proceedings of SPIE*, 6630, art. no. 663010, .
- 80.** Nafee, N., Taetz, S., Schneider, M., **Schaefer, U.F.**, Lehr, C.-M. Chitosan-coated PLGA nanoparticles for DNA/RNA delivery: effect of the formulation parameters on complexation and transfection of antisense oligonucleotides, (2007) *Nanomedicine: Nanotechnology, Biology, and Medicine*, 3 (3), pp. 173-183.
- 81.** Beck, R.C.R., Pohlmann, A.R., Hoffmeister, C., Gallas, M.R., Collnot, E., **Schaefer, U.F.**, Guterres, S.S., Lehr, C.M. Dexamethasone-loaded nanoparticle-coated microparticles: Correlation between in vitro drug release and drug transport across Caco-2 cell monolayers, (2007) *European Journal of Pharmaceutics and Biopharmaceutics*, 67 (1), pp. 18-30.

82. Weiss, B., Schneider, M., Muys, L., Taetz, S., Neumann, D., **Schaefer, U.F.**, Lehr, C.-M., Coupling of biotin-(poly(ethylene glycol))amine to poly(D,L-lactide-co-glycolide) nanoparticles for versatile surface modification, (2007) *Bioconjugate Chemistry*, 18 (4), pp. 1087-1094.
83. Collnot, E.-M., Baldes, C., Wempe, M.F., Kappl, R., Hüttermann, J., Hyatt, J.A., Edgar, K.J., **Schaefer, U.F.**, Lehr, C.-M., Mechanism of inhibition of P-glycoprotein mediated efflux by vitamin E TPGS: Influence on ATPase activity and membrane fluidity, (2007) *Molecular Pharmaceutics*, 4 (3), pp. 465-474.
84. Lademann, J., Richter, H., Teichmann, A., Otberg, N., Blume-Peytavi, U., Luengo, J., Weiß, B., **Schaefer, U.F.**, Lehr, C.-M., Wepf, R., Sterry, W. Nanoparticles - An efficient carrier for drug delivery into the hair follicles (2007) *European Journal of Pharmaceutics and Biopharmaceutics*, 66 (2), pp. 159-164.
85. Motz, S.A., **Schaefer, U.F.**, Balbach, S., Eichinger, T., Lehr, C.-M. Permeability assessment for solid oral drug formulations based on Caco-2 monolayer in combination with a flow through dissolution cell (2007) *European Journal of Pharmaceutics and Biopharmaceutics*, 66 (2), pp. 286-295.
86. Schroeder, I.Z., Franke, P., **Schaefer, U.F.**, Lehr, C.-M. Delivery of ethinylestradiol from film forming polymeric solutions across human epidermis in vitro and in vivo in pigs (2007) *Journal of Controlled Release*, 118 (2), pp. 196-203.
87. Becker, U., Ehrhardt, C., Daum, N., Baldes, C., **Schaefer, U.F.**, Ruprecht, K.W., Kim, K.-J., Lehr, C.-M., Expression of ABC-transporters in human corneal tissue and the transformed cell line, HCE-T, (2007) *Journal of Ocular Pharmacology and Therapeutics*, 23 (2), pp. 172-181.
88. Netzlaff, F., Kaca, M., Bock, U., Haltner-Ukomadu, E., Meiers, P., Lehr, C.-M., **Schaefer, U.F.**, Permeability of the reconstructed human epidermis model Episkin® in comparison to various human skin preparations (2007) *European Journal of Pharmaceutics and Biopharmaceutics*, 66 (1), pp. 127-134.
89. Motz, S.A., Klimundová, J., **Schaefer, U.F.**, Balbach, S., Eichinger, T., Solich, P., Lehr, C.-M., Automated measurement of permeation and dissolution of propranolol HCl tablets using sequential injection analysis (2007) *Analytica Chimica Acta*, 581 (1), pp. 174-180.
90. Zurdo Schroeder, I., Franke, P., **Schaefer, U.F.**, Lehr, C.-M. Development and characterization of film forming polymeric solutions for skin drug delivery, (2007) *European Journal of Pharmaceutics and Biopharmaceutics*, 65 (1), pp. 111-121.

2006:

91. Stracke, F., Weiss, B., Lehr, C.-M., König, K., **Schaefer, U.F.**, Schneider, M., Multiphoton microscopy for the investigation of dermal penetration of nanoparticle-borne drugs, (2006) *Journal of Investigative Dermatology*, 126 (10), pp. 2224-2233.
92. Netzlaff, F., **Schaefer, U.F.**, Lehr, C.-M., Meiers, P., Stahl, J., Kietzmann, M., Niedorf, F., Comparison of bovine udder skin with human and porcine skin in percutaneous permeation experiments, (2006) *ATLA Alternatives to Laboratory Animals*, 34 (5), pp. 499-513.
93. Reichling, J., Landvatter, U., Wagner, H., Kostka, K.-H., **Schaefer, U.F.** In vitro studies on release and human skin permeation of Australian tea tree oil (TTO) from topical formulations (2006) *European Journal of Pharmaceutics and Biopharmaceutics*, 64 (2), pp. 222-228.
94. Weiss, B., **Schaefer, U.F.**, Zapp, J., Lamprecht, A., Stallmach, A., Lehr, C.-M., Nanoparticles made of fluorescence-labelled poly(L-lactide-co-glycolide): Preparation, stability, and biocompatibility, (2006) *Journal of Nanoscience and Nanotechnology*, 6 (9-10), pp. 3048-3056.
95. Khalil, E., **Schaefer, U.F.**, Sallam, A., Release characteristics of diclofenac diethylamine from emulgels containing Pluronic F127, (2006) *Journal of Drug Delivery Science and Technology*, 16 (5), pp. 381-387.
96. Lademann, J., Richter, H., **Schaefer, U.F.**, Blume-Peytavi, U., Teichmann, A., Otberg, N., Sterry, W., Hair follicles - A long-term reservoir for drug delivery, (2006) *Skin Pharmacology and Physiology*, 19 (4), pp. 232-236.
97. Luengo, J., Weiss, B., Schneider, M., Ehlers, A., Stracke, F., König, K., Kostka, K.-H., Lehr, C.-M., **Schaefer, U.F.**, Influence of nanoencapsulation on human skin transport of flufenamic acid, (2006) *Skin Pharmacology and Physiology*, 19 (4), pp. 190-197.
98. Schäfer-Korting, M., Bock, U., Gamer, A., Haberland, A., Haltner-Ukomadu, E., Kaca, M., Kamp, H., Kietzmann, M., Korting, H.C., Krächter, H.-U., Lehr, C.-M., Liebsch, M., Mehling, A., Netzlaff, F., Niedorf, F., Rübbelke, M.K., **Schaefer, U.F.**, Schmidt, E., Schreiber, S., Schröder, K.-R., Spielmann, H., Vuia, A., Reconstructed human epidermis for skin absorption testing: Results of the German prevalidation study (2006) *ATLA Alternatives to Laboratory Animals*, 34 (3), pp. 283-294.
99. Taetz, S., Baldes, C., Mürdter, T.E., Kleideiter, E., Piotrowska, K., Bock, U., Haltner-Ukomadu, E., Mueller, J., Huwer, H., **Schaefer, U.F.**, Klotz, U., Lehr, C.-M., Biopharmaceutical characterization of the telomerase inhibitor BRACO19, (2006) *Pharmaceutical Research*, 23 (5), pp. 1031-1037.
100. Ossadnik, M., Richter, H., Teichmann, A., Koch, S., **Schaefer, U.F.**, Wepf, R., Sterry, W., Lademann, J., Investigation of differences in follicular

penetration of particle-and nonparticle-containing emulsions by laser scanning microscopy, (2006) *Laser Physics*, 16 (5), pp. 747-750.

101. Netzlaff, F., Kostka, K.-H., Lehr, C.-M., **Schaefer, U.F.** TEWL measurements as a routine method for evaluating the integrity of epidermis sheets in static Franz type diffusion cells in vitro. Limitations shown by transport data testing, (2006) *European Journal of Pharmaceutics and Biopharmaceutics*, 63 (1), pp. 44-50.
102. Collnot, E.-M., Baldes, C., Wempe, M.F., Hyatt, J., Navarro, L., Edgar, K.J., **Schaefer, U.F.**, Lehr, C.-M., Influence of vitamin E TPGS poly(ethylene glycol) chain length on apical efflux transporters in Caco-2 cell monolayers, (2006) *Journal of Controlled Release*, 111 (1-2), pp. 35-40.

2005:

103. Schreiber, S., Mahmoud, A., Vuia, A., Rübbelke, M.K., Schmidt, E., Schaller, M., Kandárová, H., Haberland, A., **Schaefer, U.F.**, Bock, U., Korting, H.C., Liebsch, M., Schäfer-Korting, M., Reconstructed epidermis versus human and animal skin in skin absorption studies , (2005) *Toxicology in Vitro*, 19 (6), pp. 813-822.
104. Netzlaff, F., Lehr, C.-M., Wertz, P.W., **Schaefer, U.F.**. The human epidermis models EpiSkin®, SkinEthic® and EpiDerm®: An evaluation of morphology and their suitability for testing phototoxicity, irritancy, corrosivity, and substance transport, (2005) *European Journal of Pharmaceutics and Biopharmaceutics*, 60 (2), pp. 167-178.
105. Becker, U., Ehrhardt, C., **Schaefer, U.F.**, Gukasyan, H.J., Kim, K.-J., Lee, V.H.L., Lehr, C.-M., Tissue distribution of moxaverine-hydrochloride in the rabbit eye and plasma, (2005) *Journal of Ocular Pharmacology and Therapeutics*, 21 (3), pp. 210-216.
106. Klimundová, J., Sklenářová, H., **Schaefer, U.F.**, Solich, P. Automated system for release studies of salicylic acid based on a SIA method, (2005) *Journal of Pharmaceutical and Biomedical Analysis*, 37 (5), pp. 893-898. .
107. Jacobi, U., Taube, H., **Schaefer, U.F.**, Sterry, W., Lademann, J. Comparison of four different in vitro systems to study the reservoir capacity of the stratum corneum, (2005) *Journal of Controlled Release*, 103 (1), pp. 61-71.
108. Schreiner, T., **Schaefer, U.F.**, Loth, H., Immediate drug release from solid oral dosage forms, (2005) *Journal of Pharmaceutical Sciences*, 94 (1), pp. 120-133.
109. Nakamura T, Abu-Dahab R, Menger MD, **Schaefer U**, Vollmar B, Wada H, Lehr CM, Schaefers H-J, Depletion of Alveolar Macrophages by Clodronate-liposomes Aggravates Ischemia-Reperfusion Injury of the

Lung, The Journal of Heart and Lung Transplantation, 24 , 38-45 (2005), DOI 10.1016j.healun.2003.10.007

110. Piotrowska K, Kleideiter E, Murdter TE, Taetz S, Baldes C, **Schaefer UF**, Lehr CM, Klotz U, Optimization of the TRAP assay to evaluate specificity of telomerase inhibitors, Laboratory Investigations 85, 1565-1569 (2005)

2004:

111. Ueda, M., Fuchs, S., Nakamura, T., **Schaefer, U.F.**, Lehr, C.M., Menger, M.D., Schäfers, H.-J., Reoxygenation results in cell death of human alveolar epithelial cells, (2004) Journal of Heart and Lung Transplantation, 23 (10), pp. 1198-1204.
112. Wagner, H., Kostka, K.-H., Adelhardt, W., **Schaefer, U.F.** Effects of various vehicles on the penetration of flufenamic acid into human skin, (2004) European Journal of Pharmaceutics and Biopharmaceutics, 58 (1), pp. 121-129.

2003:

113. Solich, P., Sklenářová, H., Huclová, J., Šatínský, D., **Schaefer, U.F.** Fully automated drug liberation apparatus for semisolid preparations based on sequential injection analysis (2003) Analytica Chimica Acta, 499 (1-2), pp. 9-16.
114. Sallam, A., Khalil, E., **Schaefer, U.F.**, Characterization of two diclofenac diethylamine emulgels by their in vitro release and their interaction with human skin, (2003) S.T.P. Pharma Sciences, 13 (6), pp. 405-413.
115. Jaeckle, E., **Schaefer, U.F.**, Loth, H. Comparison of effects of different ointment bases on the penetration of ketoprofen through heat-separated human epidermis and artificial lipid barriers, (2003) Journal of Pharmaceutical Sciences, 92 (7), pp. 1396-1406.
116. Fiegel, J., Ehrhardt, C., **Schaefer, U.F.**, Lehr, C.-M., Hanes, J. Large porous particle impingement on lung epithelial cell monolayers - Toward improved particle characterization in the lung (2003) Pharmaceutical Research, 20 (5), pp. 788-796.
117. Ehrhardt, C., Kneuer, C., Laue, M., **Schaefer, U.F.**, Kim, K.-J., Lehr, C.-M. 16HBE14o- human bronchial epithelial cell layers express P-glycoprotein, lung resistance-related protein, and caveolin-1 (2003) Pharmaceutical Research, 20 (4), pp. 545-551.
118. Fuchs, S., Hollins, A.J., Laue, M., **Schaefer, U.F.**, Roemer, K., Gumbleton, M., Lehr, C.-M., Differentiation of human alveolar epithelial

cells in primary culture: Morphological characterization and synthesis of caveolin-1 and surfactant protein-C, (2003) Cell and Tissue Research, 311 (1), pp. 31-45.

119. Wagner, H., Kostka, K.-H., Lehr, C.-M., **Schaefer, U.F.**, pH profiles in human skin: Influence of two in vitro test systems for drug delivery testing, (2003) European Journal of Pharmaceutics and Biopharmaceutics, 55 (1), pp. 57-65.

2002:

120. Ehrhardt, C., Fiegel, J., Fuchs, S., Abu-Dahab, R., **Schaefer, U.F.**, Hanes, J., Lehr, C.-M., Drug absorption by the respiratory mucosa: Cell culture models and particulate drug carriers, (2002) Journal of Aerosol Medicine: Deposition, Clearance, and Effects in the Lung, 15 (2), pp. 131-139.
121. Wagner, H., Kostka, K.-H., Lehr, C.-M., **Schaefer, U.F.**, Correlation between stratum corneum/water-partition coefficient and amounts of flufenamic acid penetrated into the stratum corneum, (2002) Journal of Pharmaceutical Sciences, 91 (8), pp. 1915-1921.
122. Wagner, H., Kostka, K.-H., Lehr, C.-M., **Schaefer, U.F.**, Human skin penetration of flufenamic acid: In vivo/in vitro correlation (deeper skin layers) for skin samples from the same subject (2002) Journal of Investigative Dermatology, 118 (3), pp. 540-544.
123. Ehrhardt, C., Kneuer, C., Fiegel, J., Hanes, J., Schaefer, U., Kim, K.-J., Lehr, C.-M., Influence of apical fluid volume on the development of functional intercellular junctions in the human epithelial cell line 16HBE14o-: Implications for the use of this cell line as an in vitro model for bronchial drug absorption studies, (2002) Cell and Tissue Research, 308 (3), pp. 391-400.

2001:

124. Lamprecht, A., Ubrich, N., Yamamoto, H., **Schaefer, U.F.**, Takeuchi, H., Maincent, P., Kawashima, Y., Lehr, C.-M., The muscarinic receptor agonist xanomeline has an antipsychotic-like profile in the rat, (2001) Journal of Pharmacology and Experimental Therapeutics, 299 (2), pp. 782-792.
125. Lamprecht, A., **Schaefer, U.F.**, Lehr, C.-M., Size-dependent bioadhesion of micro- and nanoparticulate carriers to the inflamed colonic mucosa, (2001) Pharmaceutical Research, 18 (6), pp. 788-793.
126. Brück, A., Abu-Dahab, R., Borchard, G., **Schaefer, U.F.**, Lehr, C.-M. Lectin-functionalized liposomes for pulmonary drug delivery: Interaction with human alveolar epithelial cells, (2001) Journal of Drug Targeting, 9 (4), pp. 241-251.

127. Wagner, H., Kostka, K.-H., Lehr, C.-M., **Schaefer, U.F.**
Interrelation of permeation and penetration parameters obtained from in vitro experiments with human skin and skin equivalents (2001) Journal of Controlled Release, 75 (3), pp. 283-295.
128. Abu-Dahab, R., **Schaefer, U.F.**, Lehr, C.-M., Lectin-functionalized liposomes for pulmonary drug delivery: Effect of nebulization on stability and bioadhesion, (2001) European Journal of Pharmaceutical Sciences, 14 (1), pp. 37-46.
129. Zghoul, N., Fuchs, R., Lehr, C.M., **Schaefer, U.F.**
Reconstructed skin equivalents for assessing percutaneous drug absorption from pharmaceutical formulations, (2001) ALTEX : Alternativen zu Tierexperimenten, 18 (2), pp. 103-106.
130. Lamprecht, A., Ubrich, N., Yamamoto, H., **Schaefer, U.F.**, Takeuchi, H., Lehr, C.-M., Maincent, P., Kawashima, Y., Design of rolipram-loaded nanoparticles: Comparison of two preparation methods (2001) Journal of Controlled Release, 71 (3), pp. 297-306.
131. Lamprecht, A., **Schaefer, U.F.**, Lehr, C.-M., Influences of process parameters on preparation of microparticle used as a carrier system for Ω - 3 unsaturated fatty acid ethyl esters used in supplementary nutrition, (2001) Journal of Microencapsulation, 18 (3), pp. 347-357.
132. Solich, P., Ogródká, E., **Schaefer, U.F.**, Application of automated flow injection analysis to drug liberations studies with the Franz diffusion cell (2001) Pharmazie, 56 (10), pp. 787-789.

2000:

133. Lamprecht, A., Rodero Torres, H., **Schaefer, U.F.**, Lehr, C.-M.
Biodegradable microparticles as a two-drug controlled release formulation: A potential treatment of inflammatory bowel disease, (2000) Journal of Controlled Release, 69 (3), pp. 445-454.
134. Wagner, H., Kostka, K.-H., Lehr, C.-M., **Schaefer, U.F.**, Drug distribution in human skin using two different in vitro test systems: Comparison with in vivo data, (2000) Pharmaceutical Research, 17 (12), pp. 1475-1481.
135. Lamprecht, A., **Schaefer, U.F.**, Lehr, C.-M., Structural analysis of microparticles by confocal laser scanning microscopy, (2000) AAPS PharmSciTech, 1 (3).
136. Lamprecht, A., **Schaefer, U.F.**, Lehr, C.M., Structural analysis of microparticles by confocal laser scanning microscopy, (2000) AAPS PharmSciTech [electronic resource], 1 (3).
137. Lamprecht, A., **Schaefer, U.F.**, Lehr, C.-M., Visualization and quantification of polymer distribution in microcapsules by confocal laser

scanning microscopy (CLSM), (2000) International Journal of Pharmaceutics, 196 (2), pp. 223-226.

138. Lamprecht, A., **Schaefer, U.F.**, Lehr, C.-M. Characterization of microcapsules by confocal laser scanning microscopy: Structure, capsule wall composition and encapsulation rate (2000), European Journal of Pharmaceutics and Biopharmaceutics, 49 (1), pp. 1-9.

before 2000:

139. Elbert, K.J., **Schaefer, U.F.**, Schäfers, H.-J., Kim, K.-J., Lee, V.H.L., Lehr, C.-M., Monolayers of human alveolar epithelial cells in primary culture for pulmonary absorption and transport studies, (1999) Pharmaceutical Research, 16 (5), pp. 601-608.
140. Wagner, H., Kostka, H.K., Lehr, C.-M., **Schaefer, U.F.**, Comparison of human skin ex-vivo penetration/permeation models, (1998) Proceedings of the Controlled Release Society, (25), pp. 547-548.
141. Elbert, K.J., **Schaefer, U.F.**, Schaefers, H.J., Lee, V.H.L., Lee, C.-M. Human alveolar epithelial cells in primary culture: Characterization by lectin binding and permeability measurements, (1998) Proceedings of the Controlled Release Society, (25), pp. 673-674.
142. Sattler S, **Schaefer U**, Schneider W, Hoelzel J, Lehr CM, Binding, Uptake, and Transport of Hypericin by Caco-2 Cell Monolayers, Journal of Pharmaceutical Sciences, 86, 1120-1128 (1997)
143. Loth, H., **Schaefer, U.F.**, Particle size dependent dissolution of poorly wettable compounds and mathematical evaluation, (1985) Acta Pharmaceutica Technologica, 31 (3), pp. 160-166.
144. Loth, H., Rugge-Wolff, I., **Schaefer, U.F.**, Particle size as critical parameter for drug release from suspension ointments, (1984) Acta Pharmaceutica Technologica, 30 (2), pp. 161-168.
145. Nimtz G, Bingelli B, Börngen L, Marquardt P, **Schaefer U.F.**, Zorn R, Dielectric and Structural Properties of a Water-Oil Emulsion at the Gel-Microemulsion Transition, Europhys. Letter, 2 (1986) 103 ff
146. Loth H, **Schaefer U.F.**, Einfluß der Eigenschaften des Pulverbettes auf die Lösungsgeschwindigkeit von Phenobarbital, Acta Pharm. Technologica 26 (1980) 310 ff