Curriculum Vitae

Personal information

Name:	Schosserer, Markus
ORCID:	0000-0003-2025-0739
Date of birth:	04.09.1981
Nationality:	Austria
URL web site:	https://pbg.meduniwien.ac.at/en/forschung/forschung-medizinische-genetik/forschungsgruppen/schosserer-lab/

Education

2012 Ph.D. (Dr. rer. nat. tech.)
Department of Biotechnology, University of Natural Resources and Life Sciences, Vienna (BOKU), AT. Supervisor: Johannes Grillari

2007 Master of Science (Dipl.-Ing.), BOKU, AT. Supervisor: Johannes Grillari

Current position

2022 – Junior Group Leader
Institute of Medical Genetics, Center for Pathobiochemistry and Genetics, Medical University of Vienna, AT

Previous positions

2019 – 2022 Senior Scientist
Institute of Molecular Biotechnology, Department of Biotechnology, BOKU, AT

2014 – 2018 Postdoc/University Assistant
Department of Biotechnology, BOKU, AT

2016 – 2016 Visiting Scientist
Mount Desert Island Biological Laboratory (Aric Rogers lab), Bar Harbor, ME, USA

2013 – 2013 Project Manager
ACIB GmbH, AT

2012 – 2013 Postdoc
Department of Biotechnology, BOKU, AT

2012 – 2012 Visiting Scientist
University of Salzburg (Hannelore Breitenbach-Koller lab), Salzburg, AT

Funding and awards

Acquired competitive peer-reviewed funding

2020 – 2027 Christian Doppler Research Association (CDG): "CD-Laboratory for Skin Multimodal Analytical Imaging of Aging and Senescence (SKINMAGINE)"
€ 1,148,175

2023 – 2026 Austrian Science Fund (FWF): Research Group "Targeting cellular senescence based on inter-organelle communication, multi-level proteostasis and metabolic control (SENIOPROM)"
€ 269,418

2023 – 2025 Hevolution/AFAR New Investigator Award in Biology and Geroscience Research: "Targeting the epitranscriptome to promote healthy lifespan"
$ 374,628 USD

2021 – 2022 Austrian Research Promotion Agency (FFG) & ALINA GmbH: "Regenerative potential of extracts of larch bark in cell culture models of human skin"
€ 12,590

2018 – 2021 Austrian Science Fund (FWF) & Herzfelder'sche Familienstiftung: "Nsun5 in ribosome function and mammalian healthy lifespan"
€ 314,379

2018 – 2019 Hochschuljubiläumsstiftung der Stadt Wien: "The nematode *Caenorhabditis elegans* as simple and cost-effective model to test human healthspan"
€ 11,000

Awards and fellowships

2019 *Young Scientific Award 2019*, Menopause, Andropause, Anti-Aging Congress, Vienna, AT

2019 *Best Poster Award*, Gordon Research Conference "RNA Editing", Barga, IT

2018 *Best Poster Award*, 10th ÖGMBT Life Science Meeting, Vienna, AT

2017 *Best Poster Award*, Gordon Research Conference "Biology of Aging", Les Diablerets, CH

2016 *James L. Boyer Fellowship* for visiting Mount Desert Island Biological Laboratory, USA

2015 *Young Investigator Award*, Society for Free Radical Research – Europe (SFRR-E)

2015 *Best Poster Award*, 7th ÖGMBT Life Science Meeting, Salzburg, AT

2013 *Best Talk Award*, 5th ÖGMBT Life Science Meeting, Innsbruck, AT

Services to the scientific community

Scientific journals

2022 – Editorial Board, “Frontiers in Aging”

2021 – Editorial Board, "Mechanisms of Ageing and Development", Elsevier

2020 – Editorial Board, "Experimental Gerontology", Elsevier

2015 – Reviewer for >20 scientific journals (see Web of Science for details)

2020 – 2021 Guest Editor for two special issues, "Mechanisms of Ageing and Development", Elsevier

Funding agencies

2018 – Evaluation for funding agencies: Swiss National Fund (SNF), Israel Science Foundation (ISF), National Science Centre Poland, Rising Tide Foundation for Clinical Cancer Research, Impetus Grants (Norn Group)

2020 – 2021 Selection committee, COFUND ARDRE doctoral program, Innsbruck, AT

Organisation of conferences

2022 Chair, "Mechanisms of Aging" session at the 14th ÖGMBT annual meeting, 300 participants, AT

2022 Chair, "Cellular Senescence" session at the TERMIS-EU conference, 300 participants, PL

2022 Organizer, annual meeting “Austrian Cluster for Tissue Regeneration”, 170 participants, AT

2016 Organizer, annual meeting COST Action "MouseAGE", 80 participants, AT

2016 Organizer, PACT Summer School: "Advanced Microscopy Techniques", 20 participants, AT

2010 Organizer and Chair, "Mechanisms of Aging" session at the 2nd ÖGMBT annual meeting, 300 participants, AT

Institutional responsibilities

2022 – 2022 Biological Safety Officer, Department of Biotechnology, BOKU, AT

2021 – 2022 Deputy Scientific Head, Core Facility "Multiscale Imaging", BOKU, AT

2020 – 2022 Member of the Department Collegium, Department of Biotechnology, BOKU, AT

2014 – 2020 Scientific Advisory Board, BOKU-VIBT Imaging Facility, AT

Scientific societies

2023 – Member, American Aging Association (AGE)

2023 – Member, Arbeitskreis Dermatologische Forschung (ADF)

2020 – Member, European Society for Dermatological Research (ESDR)

2009 – Member, Austrian Association of Molecular Life Sciences and Biotechnology (ÖGMBT)

2021 – 2022 Member, Tissue Engineering and Regenerative Medicine International Society (TERMIS)

2016 – 2021 Member, Austrian Society for Geriatrics and Gerontology (ÖGGG)

Scientific cooperations

Medical University of Vienna

- Florian Gruber, Department of Dermatology: A*ging and senescence of the skin*
- Florian Frommlet, Institute of Medical Statistics: *Statistical analysis of mouse phenotyping data*
- Petra Heffeter, Center for Cancer Research: *Raman microspectroscopy of cancer cell lines*
- Walter Berger, Center for Cancer Research: *Raman microspectroscopy of cancer cell lines*
- Bruno Podesser, Center for Biomedical Research and Translational Surgery: *Cardiac function of transgenic mice*
- Alexis Lomakin, Center for Pathobiochemistry and Genetics: *Protein synthesis in cancer cell senescence*
- Selma Osmanagic-Myers, Center for Pathobiochemistry and Genetics: *miRNAs in premature mouse aging*

National

- Pidder Jansen Dürr, University of Innsbruck: *Identification of novel senolytic compounds*

- Corina Madreiter-Sokolowski, Medical University of Graz: *Identification of novel senolytic compounds*
- Teresa Kaserer, University of Innsbruck: *Identification of novel senolytic compounds*
- Martina Marchetti-Deschmann, Technical University of Vienna: *Multimodal imaging of the skin*
- Mikolaj Ogrodnik, LBI for Traumatology: *Wound healing*

International

- Denis Lafontaine, Université Libre de Bruxelles (BEL): *RNA modifications*
- Norbert Polacek, University of Bern (CH): *Ribosome structure and function*
- Kostandin Pajcini, The University of Illinois at Chicago (USA): *T-cell maturation*
- Aric Rogers, Mount Desert Island Biological Laboratory (USA): *Caenorhabditis elegans ageing*
- Martin Kos, University of Heidelberg (GER): *2'-O-methylations of rRNA in cellular senescence*

Participation in scientific networks

2022 –	COST Action CA21108: European Network for Skin Engineering and Modeling (NETSKINMODELS)
2022 –	COST Action CA21154: Translational control in Cancer European Network (TRANSLACORE)
2020 –	COST Action CA16120: European Epitranscriptomics Network (EPITRAN)
2020 –	COST Action CA1712: Correlated Multimodal Imaging in Life Sciences (COMULIS)
2017 – 2020	COST Action BM1401: Raman-based applications for clinical diagnostics (Raman4clinics)
2016 – 2019	COST Action BM1408: Group of Elegans New Investigators in Europe (GENiE)
2016 – 2019	COST Action BM1402: Development of a European network for preclinical testing of interventions in mouse models of age and age-related diseases (MouseAGE)

Teaching activities

University of Natural Resources and Life Sciences, Vienna (BOKU)

Courses (2013-2022):

Course number	Title	Type	ECTS	Number of courses
791318	Animal cell culture (in Eng.)	Lecture	2	8
791333	Biology of aging (in Eng.)	Lecture with Seminar	3	9
791325	Flow Cytometry and Cell Sorting in Biotechnology (in Eng.)	Lecture	3	10
791014	Advanced light and chemical microscopy in life science (in Eng.)	Lecture with Practical Course	3	8
772322	Genetic model organisms in biotechnology (in Eng.)	Lecture with Practical Course	3	1
791369	Practical Course in Cell Culture and Fermentation (in Eng.)	Practical Course	3	27
791107	Bachelorseminar	Seminar	12	4
790377	Seminar in biotechnology (in Eng.)	Seminar	2	3
791413	Instructional course IIIA - animal cell culture and technology (in Eng.)	Practical Course	3	6
941413	Instructional course IIC - cell imaging (in Eng.)	Practical Course	3	6
791016	Advanced Cellular Therapies (in Eng.) (PACT Summer School)	Seminar	2	1
791021	PACT summer school - advanced microscopy techniques (in Eng.)	Seminar	2	1

Results of students' evaluations:

Total number of evaluated courses	Type	Mean evaluation score (1 = excellent, 5 = not sufficient)
13	Seminar	1.5
31	Practical Course	1.4
18	Lecture	1.3
9	Lecture with Seminar	1.2
9	Lecture with Practical Course	1.3

Medical University of Vienna

Courses (planned for WS2023/24):

Course number	Title	Type	ECTS
803.0**	SSM1 - Die Biologie des Alterns und deren Relevanz für die Medizin	Seminar	2
801.006	BL 3 - Vom Molekül zur Zelle	Seminar mit Praktikum	2
803.003	BL 8 - Krankheit, Krankheitsursachen und Krankheitsbilder	Seminar mit Praktikum	2
803.005	BL 9 - Krankheit, Manifestation und Wahrnehmung, allgemeine Arzneimitteltherapie	Seminar mit Praktikum	2
805.001	BL 13 - Ernährung und Verdauung	Seminar mit Praktikum	2
851.077	TS Progress Report in Medical Genetics	Seminar	2

Supervision of students and postdoctoral fellows

2023 –	Senior Supervisor, Ph.D. program "RNA Biology", Medical University of Vienna	
2012 –	Continuous (co-)supervision of	- 3 postdoctoral fellows - 7 Ph.D. students >20 M.Sc. students >10 B.Sc. students

Science communication and public outreach activities

2023 –	Science ambassador program (OeAD)
2023	Girls' Day
2022	Lecture at "Pint of Science"
2014 – 2022	Lange Nacht der Forschung (Long Night of Research, bi-annual)
2017 – 2020	European Researchers Night (annual)
2017 – 2020	Kinderuni BOKU (Childrens' University, annual)
2017 – 2019	Lectures at Vienna Planetarium (annual)
2019	Lecture at "Scientists for Future"
2019	Lecture at "Club of Logical Thinkers"
2016	Interview at Radio OE1 "Radiodoktor"

Didactic education

2022	Supervision of Ph.D. Students, 2x 4 hours (Medical University of Vienna)
2019	Supervision of M.Sc. and Ph.D. Students, 4 hours (BOKU, Vienna)
2019	Design of short videos for teaching, 1 day (BOKU, Vienna)
2018	Good scientific practice and prevention of plagiarism, 1 day (BOKU, Vienna)
2016 – 2017	Intensive course in didactics for university teachers, 6 days (BOKU, Vienna)
2015	Basic questions in didactics for university teachers, 2 days (BOKU, Vienna)
2014	Introduction into Moodle-based e-learning, 3x 3 hours (BOKU, Vienna)
2013 - 2015	Voice-, communication- and rhetoric-training, 4 days (BOKU, Vienna)

Publications and other scientific contributions

Metrics

44 publications including

29	original research	[3 first, 3 last, 5 corresponding authorships]
11	reviews	[4 first, 2 last, 2 corresponding authorships]
3	editorials	[3 last authorships]
1	book chapter	[1 first authorship]

total citations:	1285	*[09.03.2023, Scopus]*
h-index:	17	*[09.03.2023, Scopus]*

2 preprints
2 manuscripts in revision (1 original research with the corresponding authorship)
2 manuscripts in preparation (2 original research with the last + corresponding authorship)

Ten most influential publications in peer-reviewed journals

Schosserer, M; Minois, N; Angerer, TB; Amring, M; Dellago, H; Harreither, E; Calle-Perez, A; Pircher, A; Gerstl, MP; Pfeifenberger, S; Brandl, C; Mohr, T; Sonntagbauer, M; Kriegner, A; Linder, A; Weinhäusel, A; Steiger, M; Mattanovich, D; Rinnerthaler, M; Karl, T; Sharma, S; Entian, KD; Kos, M; Breitenbach, M; Wilson, IBH; Polacek, N; Grillari-Voglauer, R; Breitenbach-Koller, L; Grillari, J: Methylation of ribosomal RNA by NSUN5 is a conserved mechanism modulating organismal lifespan. **Nature Communications** 2015; 6/6158; doi: 10.1038/ncomms7158

This paper establishes for the first time a causal and evolutionary well-conserved connection between RNA methylation and lifespan regulation in yeast, nematodes, and fruit flies. This work on NSUN5 initiated our research on RNA methylations in the context of aging and physiology.

Heissenberger, C; Rollins, JA; Krammer, TL; Nagelreiter, F; Stocker, I; Wacheul, L; Shpylovyi, A; Tav, K; Snow, S; Grillari, J; Rogers, AN; Lafontaine, DLJ; Schosserer, M*: The ribosomal RNA m^5C methyltransferase NSUN-1 modulates healthspan and oogenesis in Caenorhabditis elegans. **eLife** 2020; 9:e56205; doi: 10.7554/eLife.56205 (*corresponding author)

This paper further expands our previous work on the physiological roles of RNA methylations. It demonstrates that the two m^5C RNA-methyltransferases NSUN-1 and NSUN-5 distinctly modulate essential processes such as aging and development in nematodes.

Heissenberger, C; Liendl, L; Nagelreiter, F; Gonskikh, Y; Yang, G; Stelzer, EM; Krammer, TL; Micutkova, L; Vogt, S; Kreil, DP; Sekot, G; Siena, E; Poser, I; Harreither, E; Linder, A; Ehret, V; Helbich, TH; Grillari-Voglauer, R; Jansen-Dürr, P; Koš, M; Polacek, N; Grillari, J; Schosserer, M*: Loss of the ribosomal RNA methyltransferase NSUN5 impairs global protein synthesis and normal growth. **Nucleic Acids Res.** 2019; 47(22):11807-11825; doi: 10.1093/nar/gkz1043 (*corresponding author)

In this paper, we characterize the molecular function of the rRNA methyltransferase NSUN5 in mammalian cells and demonstrate the physiological consequences of methylation loss in mice.

Nagelreiter, F; Coats, MT; Klanert, G; Gludovacz, E; Borth, N; Grillari, J; Schosserer, M*: OPP Labeling Enables Total Protein Synthesis Quantification in CHO Production Cell Lines at the Single-Cell Level. **Biotechnol J.** 2018; Apr;13(4):e1700492; doi: 10.1002/biot.201700492

This paper describes a novel protocol to quantify global protein synthesis by flow cytometry at the single-cell level in biotechnologically relevant CHO cells.

Schosserer, M; Banks, G; Dogan, S; Dungel, P; Fernandes, A; Presen, DM; Matheu, A; Osuchowski, M; Potter, P; Sanfeliu, C; Tuna, BG; Varela-Nieto, I; Bellantuono, I: Modelling physical resilience in ageing mice. **Mech Ageing Dev.** 2019; 177:91-102; doi: 10.1016/j.mad.2018.10.001

This review paper introduced physical resilience as a novel readout for aging interventional studies in mice and was developed together with leading experts in the field within the "MouseAGE" COST Action.

Garschall, K; Dellago, H; Gáliková, M; Schosserer, M*; Flatt, T*; Grillari, J: Ubiquitous overexpression of the DNA repair factor dPrp19 reduces DNA damage and extends Drosophila life span. **npj Aging and Mechanisms of Disease** 2017; 3(5); doi: 10.1038/s41514-017-0005-z (*shared corresponding authors)

This paper is one of the first reports that ectopic overexpression of a DNA repair factor can prolong an organism's lifespan. It thereby represents an extension of our previous cell culture studies on PRP19/SNEV.

Khan, A; Dellago, H; Terlecki-Zaniewicz, L; Karbiener, M; Weilner, S; Hildner, F; Steininger, V; Gabriel, C; Mück, C; Jansen-Dürr, P; Hacobian, A; Scheideler, M; Grillari-Voglauer, R; Schosserer, M*; Grillari, J*: SNEV(hPrp19/hPso4) Regulates Adipogenesis of Human Adipose Stromal Cells. **Stem Cell Reports** 2017; 8(1):21-29; doi: 10.1016/j.stemcr.2016.12.001
(*shared corresponding authors)

This paper establishes a novel causal link between DNA damage repair and adipogenic differentiation in ASCs and C. elegans. Thus, it expands our previous studies on PRP19/SNEV in endothelial cells.

Wagner, A; Schosserer, M*: The epitranscriptome in ageing and stress resistance: A systematic review. **Ageing Res Rev.** 2022; 81:101700; doi: 10.1016/j.arr.2022.101700
(*corresponding author)

This paper is the first review article summarizing the current knowledge on RNA modifications and their connection with organismal and cellular aging and stress resistance.

Schosserer, M*; Grillari, J; Breitenbach, M: The Dual Role of Cellular Senescence in Developing Tumors and Their Response to Cancer Therapy. **Front Oncol.** 2017; 7:278; doi: 10.3389/fonc.2017.00278 (*corresponding author)

This review paper describes the complex interaction between senescence and cancer and suggests potential therapeutic approaches.

Liendl, L; Grillari, J; Schosserer, M*: Raman fingerprints as promising markers of cellular senescence and aging. **Geroscience** 2020; 42(2):377-387; doi: 10.1007/s11357-019-00053-7 (*corresponding author)

This review paper introduces Raman microspectroscopy as a novel tool to identify senescent cells and characterize aging-associated phenomena.

Ten most important talks at conferences

1.) 51st Annual ESDR Meeting, 2022, Amsterdam, NED

2.) The 9th Aging Research and Drug Discovery Meeting, 2022, Kopenhagen, DEN

3.) EMBO Workshop “Ribosome synthesis”, 2022, Engelberg, CHE

4.) EMBL Meeting “The epitranscriptome”, 2022, Heidelberg, GER (VIRTUAL)

5.) CSHL Meeting "Mechanisms of Aging", 2020, Cold Spring Harbor, USA (VIRTUAL)

6.) Gordon Research Conference "Biology of Aging", 2019, Newry, USA

7.) 14th International Symposium on Neurobiology and Neuroendocrinology of Aging, 2018, Bregenz, AT

8.) 2nd Molecular Meeting on the Biology of Ageing, 2017, Groningen, NED

9.) Gordon Research Conference "Translation Machinery in Health & Disease", 2017, Galveston, USA

10.) European Worm Meeting, 2016, Berlin, GER

List of all publications

SCI-listed papers in peer-reviewed journals

1. Ring, NAR; Dworak, H; Bachmann, B; Schädl, B; Valdivieso, K; Rozmaric, T; Heimel, P; Fisher, I; Klinaki, E; Gutasi, A; Schuetzenberger, K; Leinfellner, G; Ferguson, J; Drechsler, S; Mildner, M; Schosserer, M; Slezak, P; Meyuhas, O; Gruber, F; Grillari, J; Redl, H; Ogrodnik, M. The p-rpS6-zone delineates wounding responses and the healing process. **Dev. Cell.** 2023; accepted

2. Wagner, A; Schosserer, M*. The epitranscriptome in ageing and stress resistance: A systematic review. **Ageing Res Rev**. 2022, 81:101700; doi: 10.1016/j.arr.2022.101700.

3. Schosserer, M*. The role and biology of senescent cells in ageing-related tissue damage and repair. **Mech Ageing Dev**. 2022, 111629. doi: 10.1016/j.mad.2022.111629. (*corresponding author)

4. Liendl, L; Schosserer, M*. Raman microspectroscopy: sub-cellular chemical imaging of aging. **Aging (Albany NY).** 2021, 13(23):24922-24923. doi: 10.18632/aging.203785. (*corresponding author)

5. Pils, V; Ring, N; Valdivieso, K; Lämmermann, I; Gruber, F; Schosserer, M; Grillari, J; Ogrodnik, M. Promises and challenges of senolytics in skin regeneration, pathology and ageing. **Mech Ageing Dev**. 2021, 200:111588. doi: 10.1016/j.mad.2021.111588.

6. Pils, V; Terlecki-Zaniewicz, L; Schosserer, M; Grillari, J; Lämmermann, I. The role of lipid-based signalling in wound healing and senescence. **Mech Ageing Dev**. 2021, 198:111527. doi: 10.1016/j.mad.2021.111527.

7. Gludovacz, E; Schuetzenberger, K; Resch, M; Tillmann, K; Petroczi, K; Schosserer, M; Vondra, S; Vakal, S; Klanert, G; Pollheimer, J; Salminen, TA; Jilma, B; Borth, N; Boehm, T. Heparin-binding motif mutations of human diamine oxidase allow the development of a first-in-class histamine-degrading biopharmaceutical. **Elife**. 2021, 10:e68542. doi: 10.7554/eLife.68542.

8. Gludovacz, E; Schuetzenberger, K; Resch, M; Tillmann, K; Petroczi, K; Vondra, S; Vakal, S; Schosserer, M; Virgolini, N; Pollheimer, J; Salminen, TA; Jilma, B; Borth, N; Boehm, T. Human diamine oxidase cellular binding and internalization in vitro and rapid clearance in vivo are not mediated by N-glycans but by heparan sulfate proteoglycan interactions. **Glycobiology**. 2021, 31(4):444-458. doi: 10.1093/glycob/cwaa090.

9. Schwarze, UY; Ni, Y; Zhou, Y; Terlecki-Zaniewicz, L; Schosserer, M; Hackl, M; Grillari, J; Gruber, R. Size changes in miR-21 knockout mice: Geometric morphometrics on teeth, alveolar bone and mandible. **Mol Med Rep**. 2021, 23(4):1-7. doi: 10.3892/mmr.2021.11924.

10. Narzt, MS; Pils, V; Kremslehner, C; Nagelreiter, IM; Schosserer, M; Bessonova, E; Bayer, A; Reifschneider, R; Terlecki-Zaniewicz, L; Waidhofer-Söllner, P; Mildner, M; Tschachler, E; Cavinato, M; Wedel, S; Jansen-Dürr, P; Nanic, L; Rubelj, I; El-Ghalbzouri, A; Zoratto, S;

Marchetti-Deschmann, M; Grillari, J; Gruber, F; Lämmermann, I. Epilipidomics of Senescent Dermal Fibroblasts Identify Lysophosphatidylcholines as Pleiotropic Senescence-Associated Secretory Phenotype (SASP) Factors. **J Invest Dermatol**. 2021, 141(4S):993-1006.e15. doi: 10.1016/j.jid.2020.11.020.

11. Cavinato, M; Madreiter-Sokolowski, CT; Büttner, S; Schosserer, M*; Zwerschke, W; Wedel, S; Grillari, J; Graier, WF; Jansen-Dürr, P. Targeting cellular senescence based on interorganelle communication, multilevel proteostasis and metabolic control. **FEBS J.** 2021, 288(12):3834-3854. doi: 10.1111/febs.15631. (*corresponding author)

12. Gruber, F; Marchetti-Deschmann, M; Kremslehner, C; Schosserer, M. The Skin Epilipidome in Stress, Aging, and Inflammation. **Front Endocrinol (Lausanne).** 2021, 11:607076. doi: 10.3389/fendo.2020.607076.

13. Heissenberger, C; Rollins, JA; Krammer, TL; Nagelreiter, F; Stocker, I; Wacheul, L; Shpylovyi, A; Tav, K; Snow, S; Grillari, J; Rogers, AN; Lafontaine, DLJ; Schosserer, M*. The ribosomal RNA m^5C methyltransferase NSUN-1 modulates healthspan and oogenesis in Caenorhabditis elegans. **eLife.** 2020, 9:e56205 doi: 10.7554/eLife.56205 (*corresponding author)

14. Kremslehner, C; Miller, A; Nica, R; Nagelreiter, IM; Narzt, MS; Golabi, B; Vorstandlechner, V; Mildner, M; Lachner, J; Tschachler, E; Ferrara, F; Klavins, K; Schosserer, M; Grillari, J; Haschemi, A; Gruber, F. Imaging of metabolic activity adaptations to UV stress, drugs and differentiation at cellular resolution in skin and skin equivalents - Implications for oxidative UV damage. **Redox Biol**. 2020, 101583

15. Strauss, FJ; Stähli, A; Kobatake, R; Tangl, S; Heimel, P; Apaza Alccayhuaman, KA; Schosserer, M; Hackl, M; Grillari, J; Gruber, R. miRNA-21 deficiency impairs alveolar socket healing in mice. **J Periodontol**. 2020 May 12.

16. Gonskikh, Y; Gerstl, M; Kos, M; Borth, N; Schosserer, M; Grillari, J; Polacek, N. Modulation of mammalian translation by a ribosome-associated tRNA half. **RNA Biol**. 2020, -12

17. Weinmüllner, R; Zbiral, B; Becirovic, A; Stelzer, EM; Nagelreiter, F; Schosserer, M; Lämmermann, I; Liendl, L; Lang, M; Terlecki-Zaniewicz, L; Andriotis, O; Mildner, M; Golabi, B; Waidhofer-Söllner, P; Schedle, K; Emsenhuber, G; Thurner, PJ; Tschachler, E; Gruber, F; Grillari, J. Organotypic human skin culture models constructed with senescent fibroblasts show hallmarks of skin aging. **NPJ Aging Mech Dis**. 2020, 6:4

18. Guo, S; Beleites, C; Neugebauer, U; Abalde-Cela, S; Afseth, NK; Alsamad, F; Anand, S; Araujo-Andrade, C; Aškrabić, S; Avci, E; Baia, M; Baranska, M; Baria, E; Batista de Carvalho, LAE; de Bettignies, P; Bonifacio, A; Bonnier, F; Brauchle, EM; Byrne, HJ; Chourpa, I; Cicchi, R; Cuisinier, F; Culha, M; Dahms, M; David, C; Duponchel, L; Duraipandian, S; El-Mashtoly, SF; Ellis, DI; Eppe, G; Falgayrac, G; Gamulin, O; Gardner, B; Gardner, P; Gerwert, K; Giamarellos-Bourboulis, EJ; Gizurarson, S; Gnyba, M; Goodacre, R; Grysan, P; Guntinas-Lichius, O; Helgadottir, H; Grošev, VM; Kendall, C; Kiselev, R; Kölbach, M; Krafft, C; Krishnamoorthy, S; Kubryck, P; Lendl, B; Loza-Alvarez, P; Lyng, FM; Machill, S; Malherbe, C; Marro, M; Marques, MPM; Matuszyk, E; Morasso, CF; Moreau, M; Muhamadali, H; Mussi, V; Notingher, I; Pacia, MZ; Pavone, FS; Penel, G; Petersen, D; Piot, O; Rau, JV; Richter, M; Rybarczyk, MK; Salehi, H;

Schenke-Layland, K; Schlücker, S; Schosserer, M; Schütze, K; Sergo, V; Sinjab, F; Smulko, J; Sockalingum, GD; Stiebing, C; Stone, N; Untereiner, V; Vanna, R; Wieland, K; Popp, J; Bocklitz, T. Comparability of Raman Spectroscopic Configurations: A Large Scale Cross-Laboratory Study. **Anal Chem.** 2020, 92(24):15745-15756.

19. Heissenberger, C; Liendl, L; Nagelreiter, F; Gonskikh, Y; Yang, G; Stelzer, EM; Krammer, TL; Micutkova, L; Vogt, S; Kreil, DP; Sekot, G; Siena, E; Poser, I; Harreither, E; Linder, A; Ehret, V; Helbich, TH; Grillari-Voglauer, R; Jansen-Dürr, P; Koš, M; Polacek, N; Grillari, J; Schosserer, M*. Loss of the ribosomal RNA methyltransferase NSUN5 impairs global protein synthesis and normal growth. **Nucleic Acids Research**. 2019, 47(22):11807-11825; doi: 10.1093/nar/gkz1043. (*corresponding author)

20. Liendl, L; Grillari, J; Schosserer, M*. Raman fingerprints as promising markers of cellular senescence and aging. **Geroscience**. 2020, 42(2):377-387; doi: 10.1007/s11357-019-00053-7. (*corresponding author)

21. Schosserer, M; Banks, G; Dogan, S; Dungel, P; Fernandes, A; Presen, DM; Matheu, A; Osuchowski, M; Potter, P; Sanfeliu, C; Tuna, BG; Varela-Nieto, I; Bellantuono, I. Modelling physical resilience in ageing mice. **Mech Ageing Dev**. 2019, 177:91-102

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39. Schosserer, M; Grubeck-Loebenstein, B; Grillari J. Grundlagen der biologischen Alterung [principles of biological aging]. **Zeitschrift für Gerontologie und Geriatrie**. 2015; 48(3):285-294

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41. Dellago, H; Preschitz-Kammerhofer, B; Terlecki-Zaniewicz, L; Schreiner, C; Fortschegger, K; Chang, MW; Hackl, M; Monteforte, R; Kühnel, H; Schosserer, M; Gruber, F; Tschachler, E; Scheideler, M; Grillari-Voglauer, R; Grillari, J; Wieser, M. High levels of oncomiR-21 contribute to the senescence induced growth arrest in normal human cells and its knock-down increases the replicative life span. **Aging Cell**. 2013; Jun;12(3):446-58

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Book chapter

44. Schosserer, M; Grillari, J (2017): Biologische Grundlagen des Alterns und dessen Relevanz für die Lebensqualität, In: Likar, R; Bernatzky, G; Pinter, G; Pipam, W; Janig, H; Sadjak, A, Lebensqualität im Alter, 3-13; **Springer, Berlin, Heidelberg**; ISBN 978-3-662-53100-6

Invited seminars

1. Schosserer, M. (2023): m^{5}C-modifications of ribosomal RNA modulate healthy lifespan and development. Max F. Perutz Laboratories, MAR 29, 2023, Vienna, AUSTRIA

2. Schosserer, M. (2021): Ribosome heterogeneity by rRNA methylation modulates aging of cells and organisms. SynAGE Guest Lecture, NOV 03, 2021, Magdeburg, GERMANY (VIRTUAL)

3. Schosserer, M. (2021): Methylations of ribosomal RNA – Novel players in aging and cellular senescence. MDIBL Department Seminar, FEB 2, 2021, USA (VIRTUAL)

4. Schosserer, M. (2020): Methylations of ribosomal RNA modulate ribosome function and healthy ageing. Research Training Group CEMMA (cellular and molecular mechanisms in aging), JAN 31, 2020, Ulm, GERMANY

Conference & workshop proceedings
(*presenting author)

1. Nagelreiter, F; Yang, G; Heissenberger, C; Gonskikh, Y; Polacek, N; Grillari, J; Kos, M; Schosserer, M* (2019): Specialized ribosomes in human dermal fibroblast senescence. J INVEST DERMATOL. 2019; 139(9): S268-S268.

2. Schosserer, M*; Rollins, JA; Heissenberger, C; Nagelreiter, F; Snow, S; Rogers, A; Grillari, J (2017): Characterization of ribosomal RNA methylations modulating life- and healthspan of Caenorhabditis elegans. EXP GERONTOL. 2017; 94: 114-115

3. Nagelreiter, F*; Weinmullner, R; Erker, T; Grillari, J; Schosserer, M (2017): Impact of resveratrol analogues on a 3D in vitro model of human skin. EXP GERONTOL. 2017; 94: 116-117

4. Heissenberger, C*; Dimitrijevic, N; Gonskikh, Y; Linder, A; Grillari-Voglauer, R; Kos, M; Polacek, N; Grillari, J; Schosserer, M (2017): NSUN5 methylates ribosomal RNA and modulates ribosome function in human cells. EXP GERONTOL. 2017; 94: 115-116.

5. Fuchs, E*; Schosserer, M; Linder, A; Wilson, IBH; Grillari, J (2011): NOPSI is a novel modulator of the lifespan of Caenorhabditis elegans. EXP GERONTOL. 2011; 46(2-3): 208-209.
6. Schosserer, M*; Minois, N; Bakowska-Zywicka, K; Fuchs, E; Sekot, G; Grillari-Voglauer, R; Polacek, N; Grillari, J (2011): The novel RNA-methyl-transferase NOPSI modulates the life span of Drosophila melanogaster. EXP GERONTOL. 2011; 46(2-3): 209-209.

7. Schosserer, M*; Minois, N; Lindner, A; Sekot, G; Katinger, H; Voglauer, R; Grillari, J (2009): The novel protein Nopsi and its impact on the life span of Drosophila melanogaster. EXP GERONTOL. 2009; 44(1-2): 22.

8. Schosserer, M*; Lee, K; Loscher, M; Ajuh, P; Denegri, M; Lamond, AI; Katinger, H; Voglauer, R; Grillari, J (2007): Blom7 - a novel splicing factor involved in cellular aging. FEBS J. 2007; 274: 361-361.

Unpublished presentations at scientific conferences and workshops (*presenting author)

1. Liendl, L; Wagner, A; Papp, L; Heissenberger, C; Hengstschläger, M; Schosserer, M* (2023): Deletion of the RNA methyltransferase Nsun5 reduces frailty in mice. Gordon Research Conference "RNA Editing", MAR 19-24, 2023, Ventura, USA **[Poster]**

2. Nagelreiter, F; Yang, G; Schmid-Siegel, M; Gonskikh, Y; Heissenberger, C; Tav, K; Polacek, N; Grillari, J; Kos, M; Hengstschläger, M; Schosserer, M* (2023): Altered protein synthesis in cellular senescence of human dermal fibroblasts. ADF Annual Meeting, FEB 23-25, 2023, Innsbruck, AUSTRIA **[poster]**

3. Nagelreiter, F; Yang, G; Schmid-Siegel, M; Gonskikh, Y; Heissenberger, C; Tav, K; Polacek, N; Grillari, J; Kos, M; Hengstschläger, M; Schosserer, M* (2023): Altered protein synthesis in cellular senescence of human dermal fibroblasts. Meeting of the Working Group "Dermato-Endocrinology", FEB 22, 2023, Innsbruck, AUSTRIA **[invited talk]**

4. Schosserer, M* (2023): Senescent dermal fibroblasts and keratinocytes contribute to human skin aging. COST Action "NETSKINMODELS" Kick-Off Meeting, FEB 15-17, 2023, Bratislava, SLOVAKIA **[selected talk from abstracts]**

5. Nagelreiter, F; Yang, G; Schmid-Siegel, M; Gonskikh, Y; Heissenberger, C; Tav, K; Polacek, N; Grillari, J; Kos, M; Hengstschläger, M; Schosserer, M* (2023): Altered protein synthesis in cellular senescence. SENIOPROM Kick-Off Meeting, FEB 01-02, 2023, Innsbruck, AUSTRIA **[invited talk]**

6. Liendl, L; Wagner, A; Papp, L; Heissenberger, C; Schosserer, M* (2022): Deletion of the RNA methyltransferase Nsun5 reduces frailty in mice. Vienna RNA Conference – RNA modification and processing, OCT 26 - 29, 2022, Vienna, AUSTRIA **[invited talk]**

7. Nagelreiter, F; Yang, G; Schmid-Siegel, M; Heissenberger, C; Gonskikh, Y; Polacek, N; Grillari, J; Kos, M; Schosserer, M* (2022): Ribosome heterogeneity by rRNA methylation in skin cell senescence. 51st Anniversary ESDR Annual Meeting, SEP 28 – OCT 1, 2022, Amsterdam, NETHERLANDS **[selected talk from abstracts]**

8. Liendl, L; Wagner, A; Papp, L; Heissenberger, C; Schosserer, M* (2022): Deletion of the RNA methyltransferase Nsun5 reduces frailty in mice. The 9th Aging Research and Drug Discovery Meeting, AUG 29 - SEP 2, 2022, Copenhagen, DENMARK **[selected talk from abstracts]**

9. Liendl, L; Heissenberger, C; Wagner, A; Papp, L; Schosserer, M* (2022): Two specific m^5C-modifications of ribosomal RNA distinctly modulate healthy lifespan and development. EMBO Workshop – Ribosome Synthesis, AUG 17-21, 2022, Engelberg, SWITZERLAND **[Invited Talk]**

10. Liendl, L; Wagner, A; Papp, L; Heissenberger, C; Schosserer, M* (2022): Deletion of the RNA methyltransferase Nsun5 reduces frailty in mice. The 15th International Symposium on Neurobiology and Neuroendocrinology of Aging, JUL 15-19, 2022, Bregenz, AUSTRIA

[Poster]

11. Liendl, L; Wagner, A; Papp, L; Heissenberger, C; Schosserer, M* (2022): Nsun5 deletion promotes healthy aging in mice. International Symposium: "Aging across species", JUL 11-12, 2022, Graz, AUSTRIA **[Invited Talk]**

12. Yang, G; Nagelreiter, F; Heissenberger, C; Gonskikh, Y; Polacek, N; Grillari, J; Kos, M; Schosserer, M* (2022): Ribosome heterogeneity by rRNA methylation in skin cell senescence. TERMIS EU-Chapter Meeting, JUN 28 – JUL 01, 2022, Krakow, POLAND **[Poster]**

13. Nagelreiter, F; Yang, G; Heissenberger, C; Gonskikh, Y; Polacek, N; Kos, M; Grillari, J; Schosserer, M* (2022): The role of protein synthesis and RNA modifications in cellular senescence. Austrian Cluster for Tissue Regeneration Annual Meeting, APR 27-28, 2022, Vienna, AUSTRIA **[Invited Talk]**

14. Schosserer, M* (2022): Ribosome heterogeneity in skin cell senescence. TERMIS Winter School 2022, MAR 05-08, 2022, Radstadt, AUSTRIA **[Invited Talk]**

15. Nagelreiter, F; Yang, G; Heissenberger, C; Gonskikh, Y; Polacek, N; Grillari, J; Kos, M; Schosserer, M* (2022): Ribosome heterogeneity by rRNA methylation in skin cell senescence. 2nd Euro Geroscience Conference, MAR 24-25, 2022, Toulouse, FRANCE **[Poster]**

16. Liendl, L; Heissenberger, C; Papp, L; Schosserer, M* (2022): Nsun5 deletion promotes healthy aging in mice. EMBO Workshop: "The epitranscriptome", FEB 9-11, 2022, Heidelberg, GERMANY (VIRTUAL) **[selected talk from abstracts]**

17. Schosserer, M* (2021): Cellular senescence and proliferation are associated with an altered ribosomal RNA methylation. RNA Biology forever - Vienna RNA Meeting 2021, SEP 28-29, 2021, Vienna, AUSTRIA **[Invited Talk]**

18. Schosserer, M* (2021): RNA modifications are novel modulators of aging and senescence. JOINT ARDRE & AGE_REG Symposium, APR 28-29, 2021, Innsbruck, AUSTRIA (VIRTUAL) **[Invited Talk]**

19. Nagelreiter, F; Yang, G; Heissenberger, C; Gonskikh, Y; Polacek, N; Grillari, J; Kos, M; Schosserer, M* (2021): Heterogenous ribosomes in human dermal fibroblast senescence. Virtual 50th Anniversary ESDR Annual Meeting, SEP 22-25, 2021, VIRTUAL **[Poster]**

20. Nagelreiter, F; Yang, G; Heissenberger, C; Gonskikh, Y; Polacek, N; Grillari, J; Kos, M; Schosserer, M* (2021): Heterogenous ribosomes in human dermal fibroblast senescence. EMBL Conference: Protein Synthesis and Translational Control, SEP 7-10, 2021, Heidelberg, GERMANY (VIRTUAL) **[Poster]**

21. Nagelreiter, F; Yang, G; Heissenberger, C; Gonskikh, Y; Polacek, N; Grillari, J; Kos, M; Schosserer, M* (2021): Heterogenous ribosomes in human dermal fibroblast senescence. The 8th Aging Research and Drug Discovery Meeting, AUG 30 - SEP 3, 2021, Copenhagen,

DENMARK **[Poster]**

22. Nagelreiter, F; Yang, G; Heissenberger, C; Gonskikh, Y; Polacek, N; Grillari, J; Kos, M; Schosserer, M* (2021): Heterogenous ribosomes in human dermal fibroblast senescence. Tissue Engineering and Regenerative Medicine International Society (TERMIS) 6th World Congress, NOV 15-19, 2021, VIRTUAL **[Poster]**

23. Nagelreiter, F; Yang, G; Heissenberger, C; Gonskikh, Y; Polacek, N; Kos, M; Grillari, J; Schosserer, M* (2020): Specialized ribosomes in human dermal fibroblast senescence. Keystone Symposia: Intra- and Intercellular Mechanisms of Aging, FEB 09-13, 2020, Vancouver, CANADA **[Poster]**

24. Heissenberger, C; Krammer, TL; Stocker, I; Rollins, JA; Nagelreiter, F; Grillari, J; Lafontaine, DLJ; Rogers, A; Schosserer, M*. (2019): Two specific m5C-modifications of ribosomal RNA distinctly modulate healthy lifespan and development. 3rd Molecular Biology of Ageing Meeting (ERIBA), OCT 10-12, 2019, Groningen, NETHERLANDS **[Poster]**

25. Heissenberger, C; Krammer, TL; Stocker, I; Rollins, JA; Nagelreiter, F; Grillari, J; Lafontaine, DLJ; Rogers, A; Schosserer, M*. (2019): Two specific m5C-modifications of ribosomal RNA distinctly modulate healthy lifespan and development. 11th ÖGMBT Annual Meeting, SEP 16-18, 2019, Salzburg, AUSTRIA **[selected talk from abstracts]**

26. Heissenberger, C; Krammer, TL; Stocker, I; Rollins, JA; Nagelreiter, F; Grillari, J; Lafontaine, DLJ; Rogers, A; Schosserer, M*. (2019): Two specific m5C-modifications of ribosomal RNA distinctly modulate healthy lifespan and development. EMBO Workshop - Protein Synthesis and Translational Control, SEP 4-7, 2019, Heidelberg, GERMANY **[Poster]**

27. Heissenberger, C; Krammer, TL; Stocker, I; Rollins, JA; Nagelreiter, F; Grillari, J; Lafontaine, DLJ; Rogers, A; Schosserer, M*. (2019): Two specific m5C-modifications of ribosomal RNA distinctly modulate healthy lifespan and development. Gordon Conference "Biology of Aging", JUL 14-19, 2019, Newry, USA **[selected talk from abstracts]**

28. Heissenberger, C; Nagelreiter, F; Gonskikh, Y; Liendl, L; Koš, M; Polacek, N; Grillari, J; Schosserer, M* (2019): Loss of the ribosomal RNA methyltransferase NSUN5 impairs global protein synthesis and normal growth. Gordon Research Conference: "RNA Editing", MAR 24-29, 2019, Barga, ITALY **[Poster]**

29. Heissenberger, C; Rollins, JA; Krammer, T; Nagelreiter, F; Stelzer, E; Snow, S; Rogers, A; Grillari, J; Schosserer, M* (2018): Base methylations of ribosomal RNA modulate healthy lifespan and development in C. elegans. Cell Symposia: Aging and Metabolism, SEP 23-25, 2018, Sitges, SPAIN **[Poster]**

30. Heissenberger, C; Rollins, JA; Krammer, T; Nagelreiter, F; Stelzer, E; Snow, S; Rogers, A; Grillari, J; Schosserer, M* (2018): Ribosomal RNA methylation by rram-1 modulates

healthy lifespan. ÖGMBT Annual Meeting, SEP 17-20, 2018, Vienna, AUSTRIA **[Poster]**

31. Liendl, L*; Heissenberger, C; Krammer, T; Plasenzotti, R; Grillari, J; Schosserer, M (2018): Nsun5 methylates 28S ribosomal RNA and modulates cell proliferation and aging. MouseAGE Annual Meeting, SEP 24-25, 2018, Rome, Italy **[Poster]**

32. Heissenberger, C; Rollins, JA; Krammer, T; Nagelreiter, F; Stelzer, E; Snow, S; Rogers, A; Grillari, J; Schosserer, M* (2018): Base methylations of ribosomal RNA modulate healthy lifespan and development in C. elegans. Cold Spring Harbor Laboratory Meeting: Translational Control, SEP 4-8, 2018, Cold Spring Harbor, USA **[Poster]**

33. Schosserer, M*; Heissenberger, C; Krammer, T; Nagelreiter, F; Grillari, J (2018): Ribosomal RNA methylation by rram-1 modulates healthy lifespan. 14th International Symposium on Neurobiology and Neuroendocrinology of Aging, JUL 15-20, 2018, Bregenz, AUSTRIA **[Invited Talk]**

34. Heissenberger, C; Rollins, JA; Krammer, T; Nagelreiter, F; Stelzer, E; Snow, S; Rogers, A; Grillari, J; Schosserer, M* (2018): Base methylations of ribosomal RNA modulate healthy lifespan and development in C. elegans. EMBO Workshop: C. elegans development, cell biology and gene expression, JUN 13-17, 2018, Barcelona, SPAIN **[Poster]**

35. Heissenberger, C*; Nagelreiter, F; Stelzer, E; Krammer, T; Gonskikh, Y; Koš, M; Polacek, N; Grillari, J; Schosserer, M (2018): NSUN5 methylates human and mouse 28S ribosomal RNA and modulates cell proliferation . EMBL Conference - The Epitranscriptome, APR 25-27, 2018, Heidelberg, GERMANY **[Poster]**

36. Schosserer, M*; Heissenberger, C; Nagelreiter, F; Grillari, J (2017): Two specific rRNA base methylations modulate healthy lifespan, 2nd Molecular Meeting on the Biology of Ageing, OCT 8 - 11, 2017, Groningen, NETHERLANDS **[selected talk from abstracts]**

37. Schosserer, M*; Heissenberger, C; Nagelreiter, F; Grillari, J (2017): Two specific rRNA base methylations modulate healthy lifespan, Gordon Research Conference "Biology of Aging", JUL 9-14, 2017, Les Diablerets, SWITZERLAND **[Poster]**

38. Schosserer, M*; Heissenberger, C; Nagelreiter, F; Grillari, J (2017): Two specific rRNA base methylations modulate healthy lifespan, Gordon Research Seminar "Biology of Aging", JUL 8-9, 2017, Les Diablerets, SWITZERLAND **[selected talk from abstracts]**

39. Weinmüllner, R; Nagelreiter, F; Grillari, J; Schosserer, M* (2017): Detection of cellular senescence by Raman microspectroscopy, COST Action "Raman4Clinics" Annual Meeting, JUL 5-7, 2017, Belgrade, SERBIA **[Poster]**

40. Schosserer, M*; Heissenberger, C; Nagelreiter, F; Grillari, J (2017): Zwei spezifische Modifikationen der ribosomalen RNA modulieren die gesunde Lebensspanne, 12. Gemeinsamer Österreichisch-Deutscher Geriatriekongress "Geriatrie - Wissen und Forschung für ein gelingendes Alter(n)", APR 20-22, 2017, Vienna, AUSTRIA **[selected**

talk from abstracts]

41. Schosserer, M*; Minois, N; Rollins, JA; Heissenberger, C; Nagelreiter, F; Snow, S; Pfeifenberger, S; Breitenbach-Koller, L; Rogers, A; Grillari, J (2017): Characterization of two ribosomal RNA base methylations modulating life- and healthspan, Gordon Research Conference: Translation Machinery in Health & Disease, MAR 19-24, 2017, Galveston, USA **[selected short talk as one of the two best GRS talks]**

42. Schosserer, M*; Minois, N; Rollins, JA; Heissenberger, C; Nagelreiter, F; Snow, S; Pfeifenberger, S; Breitenbach-Koller, L; Rogers, A; Grillari, J (2017): Characterization of two ribosomal RNA base methylations modulating life- and healthspan, Gordon Research Seminar (GRS): Translation Machinery in Health & Disease, MAR 18-19, 2017, Galveston, USA **[selected talk from abstracts]**

43. Nagelreiter, F*; Weinmüllner, R; Erker, T; Grillari, J; Schosserer, M (2016): Impact of resveratrol analogues on a 3D in vitro model of human skin, ÖGMBT Annual Meeting, SEP 12-14, 2016, Graz, AUSTRIA **[Poster]**

44. Schosserer, M*; Minois, N; Rollins, JA; Heissenberger, C; Nagelreiter, F; Snow, S; Pfeifenberger, S; Breitenbach-Koller, L; Rogers, A; Grillari, J (2016): Characterization of ribosomal RNA methylations modulating life- and healthspan, ÖGMBT Annual Meeting, SEP 12-14, 2016, Graz, AUSTRIA **[Poster]**

45. Nagelreiter, F*; Weinmüllner, R; Erker, T; Grillari, J; Schosserer, M (2016): Impact of resveratrol analogues on a 3D in vitro model of human skin, The Thirteenth International Symposium on Neurobiology and Neuroendocrinology of Aging, JUL 17-22, 2016, Bregenz, AUSTRIA **[Poster]**

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