

# Rossella Crescitelli - Curriculum vitae

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## Personal information

NAME Rossella Crescitelli  
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## Work experience

- JAN 2020 – TO PRESENT **Researcher**  
Sahlgrenska Cancer Center, University of Gothenburg  
Research topic: Analysis of extracellular vesicles in human breast cancer
- MAY 2014 -DEC 2019 **Post doc fellow**  
Krefting Research Centre, University of Gothenburg  
Research topic: Isolation and characterization of extracellular vesicles from tissues
- SEP 2016 **Guest researcher**  
Umeå University, Umeå Core Facility for Electron Microscopy (UCEM)  
Facility leader: Linda Sandblad
- MAY - JUN 2015 **Guest researcher**  
Pohang University of Science and Technology, Pohang, Republic of Korea  
Prof. Jong Song Ghoo
- MAR 2015 **Invited speaker**  
KTH Royal Institute of Technology, Karolinska Institutet, Stockholm  
Prof. Peter Nilsson
- APR 2012 – SEP 2013 **Guest PhD Student**  
Krefting Research Centre, University of Gothenburg  
Research topic: Extracellular vesicles: development of isolation methods
- 2010 – 2013 **Teacher assistant**  
University of Eastern Piedmont “Amedeo Avogadro”
- 2007 – 2010 **Intern**

Dept. of Biochemistry and Medical Biotechnology,

University of Naples “Federico II”

Research topic: Gene transcriptional analysis: anti-apoptotic gene bag3 as a new target gene of transcription factor WT1

2006 – 2007 **Intern**

Dept. of Clinical Pathology – Functional area of cytogenetics in prenatal diagnosis, University of Naples “Federico II”

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## **Education**

APR 2014 **PhD in Biotechnology for Human Health**

Dept. of Medical Sciences, University of Eastern Piedmont “Amedeo Avogadro”

Research topic: Extracellular vesicle analysis in erythroid ribosomal stress (Diamond Blackfan Anemia)

MAR 2010 **Master degree in Medical Biotechnology**

University of Naples “Federico II”

OCT 2007 **Bachelor degree in Medical Biotechnology**

University of Naples “Federico II”

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## **Courses**

AUG 2018 Workshop in electron tomography, University of Gothenburg (Sweden)

NOV 2016 Licence in “Hårdplasthantering” for resin manipulation for EM sample preparation, University of Gothenburg (Sweden)

MAR-SEP 2014 Courses on **Nanosight** instrumentation, **CyFlow<sup>®</sup> Cube 6** (Partec), **qNano** (IZON), **ZetaView<sup>®</sup>** (Particle Matrix), **BD FACSVerser**, University of Gothenburg (Sweden)

MAR 2012 Course on **BD FACSCalibur** instrumentation, Becton Dickinson Company, Buccinasco (Italy)

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## **Technical skills**

### **Cell biology techniques**

Bacterial and Mammalian cell cultures, Stem cell cultures (CD34+ cells extraction from cordon blood, mesenchymal stem cells), Cell transfection (transient and stable) by liposome technique and electroporation, Cell transduction by lentivirus vectors, Flow cytometry, Extracellular vesicle isolation from different tissues and biological liquids by different methods (differential centrifugation, density gradient ultracentrifugation antibody-coated magnetic beads, size exclusion chromatography, commercial kits)

### **Biochemistry and molecular biology techniques**

Nucleic acid extraction from cells and vesicles, Electrophoretic techniques, Reverse transcriptase-polymerase chain reaction (RT-PCR), Real Time-PCR (TaqMan, Syber Green), Cloning techniques, Luciferase assay, Extraction protein techniques, Western blotting, Production of recombinant proteins, Chromatin immunoprecipitation (CHIP), Co-immunoprecipitation, Viability assays (BrdU, MTT)

### **Cytogenetics and prenatal diagnostic techniques**

Amniocyte cultures, Reconstruction of karyotypes by the use of karyotyping, Fluorescence in situ hybridization (FISH)

### **Imaging techniques**

Sample preparation for negative stain

Tissue preparation: high pressure freezing, freeze substitution and chemical fixation

Imaging acquisition:

- transmission electron microscopy (Talos L120C, LEO 912 OMEGA and JEOL 1230)
- scanning electron microscopy (ZEISS GeminiSEM 450)
- light microscopy (Axio Observer and cellR/scanR)

Imaging reconstruction: electron tomography

Imaging analysis: IMOD software

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## **Computer skills**

OS	Windows, Mac
LAB SOFTWARE	Image reconstruction (IMOD), FlowJo, 2100 Bioanalyzer software, Real Time PCR data analysis (Life Technologies, Applied Biosystem)
OTHER	Office suite

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## **Language skills**

ITALIAN	Mother tongue
ENGLISH	Advanced
SWEDISH	Beginner

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## **Referee-assignment**

Journal of Extracellular Vesicles

Respiratory Research

Plos One

Respiratory Medicine

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## **Awards**

Traveling award: Stiftelsen Assar Gabrielssons Fond. (2015, 2019)

Scholarship: ISEV 2020

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## **Communications**

Submitted more than thirty abstracts to international scientific meetings. Some of them chosen for oral communication.

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## **References**

**Roger Olofsson Bagge**, Associate Professor, MD, PhD

Sahlgrenska Center, University of Gothenburg, Sweden

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**Jan Lötvall**, Full Professor, MD, PhD

Krefting Research Centre, University of Gothenburg, Sweden

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**Irma Dianzani**, Full Professor, MD, PhD

University of Eastern Piedmont “Amedeo Avogadro”, Novara, Italy

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## **Scientific publications**

1. **Crescitelli R**, Lässer C, Lötvall J. *Isolation and characterization of extracellular vesicle subpopulations from tissues*. Nature Protocols, Jan 2021.
2. Hingert D, Ekström K, Aldridge J, **Crescitelli R**, Brisby H. *Extracellular vesicles from human mesenchymal stem cells expedite chondrogenesis in 3D human degenerative disc cell cultures*. Stem Cell Res Ther. 2020; 11: 323.
3. **Crescitelli R**, Lässer C, Jang SC, Cvjetkovic A, Malmhäll C, Karimi N, Höög JL, Johansson I, Fuchs J, Thorsell A, Gho YS, Olofsson Bagge R, Jan Lötvall J (2020) *Subpopulations of extracellular vesicles from human metastatic melanoma tissue identified by quantitative proteomics after optimized isolation*. Journal of Extracellular Vesicles, 9:1, 1722433
4. Jang SC\*, **Crescitelli R\***, Cvjetkovic A, Belgrano V, Olofsson Bagge R, Sundfeldt K, Ochiya T, Kalluri R, Lötvall J. *Mitochondrial protein enriched extracellular vesicles discovered in human melanoma tissues can be detected in patient plasma*. J Extracell Vesicles. 2019 Aug 27;8(1):1635420. doi: 10.1080/20013078.2019.1635420. eCollection

2019.

5. Lázaro-Ibáñez E, Lässer C, Shelke GV, **Crescitelli R**, Jang SC, Cvjetkovic A, García-Rodríguez A, Lötval J. *DNA analysis of low- and high- density fractions defines heterogeneous subpopulations of small extracellular vesicles based on their DNA cargo and topology*. J Extracell Vesicles. 2019 Aug 27;8(1):1656993. doi: 10.1080/20013078.2019.1656993. eCollection 2019.
6. Riazifar M, Mohammadi RM, Egest J, Pone EJ, Yeri A, Lässer C, Aude I, Segaliny AI, McIntyre LL, Shelke GV, Hutchins E, Hamamoto A, Calle EN, **Crescitelli R**, Liao W, Pham V, Yin Y, Jayaraman J, Lakey JRT, Walsh CM, Van Keuren-Jensen K, Lötval J, Zhao W. *Stem Cell-Derived Exosomes as Nanotherapeutics for Autoimmune and Neurodegenerative Disorders*. ACS Nano. 2019 Jun 25;13(6):6670-6688. doi: 10.1021/acsnano.9b01004. Epub 2019 May 29.
7. Théry C, ..., **Crescitelli R**, ..., Zuba-Surma EK. *Minimal information for studies of extracellular vesicles 2018 (MISEV2018): a position statement of the International Society for Extracellular Vesicles and update of the MISEV2014 guidelines*. J Extracell Vesicles. 2018 Nov 23;7(1):1535750.
8. Karimi N, Cvjetkovic A, Jang SC, **Crescitelli R**, Hosseinpour Feizi MA, Nieuwland R, Lötval J, Lässer C. *Detailed analysis of the plasma extracellular vesicle proteome after separation from lipoproteins*. Cell Mol Life Sci. 2018 Aug;75(15):2873-2886.
9. Svennerholm K, Park K, Wikström J, Lässer C, **Crescitelli R**, Shelke GV, Jang SC, Suzuki S, Bandeira E, Olofsson CS, Lötval J. *Escherichia coli outer membrane vesicles can contribute to sepsis induced cardiac dysfunction*. Sci Rep. 2017 Dec 12;7(1):17434.
10. Zabeo D\*, **Crescitelli R**\*, O'Toole E\*, Roque H\*, Höög J. *3D Ultrastructure of multi-vesicular bodies in fission yeast*. Mar 2017 10.19185/matters.201702000007
11. Cvjetkovic A, **Crescitelli R**, Lässer C, Zabeo D, Widlund P, Nyström T, Höög J\*, Lötval J\*. *Extracellular vesicles with intrinsic motile capability*. Jun 2017 10.19185/matters.201704000003
12. Lässer C, Shelke GV, Yeri A, Kim DK, **Crescitelli R**, Raimondo S, Sjöstrand M, Ghos YS, Van Keuren Jensen K, Lötval J. *Two distinct extracellular RNA signatures released by a single cell type identified by microarray and next-generation sequencing*. RNA Biol. 2016 Oct 28:0.
13. Macri S, Pavesi E\*, **Crescitelli R**\*, Aspesi A, Vizziello C, Botto C, Quarello P, Notari P, Ramenghi U, Ellis S.R, Dianzani I. *Immunophenotypic profiling of erythroid progenitor-derived extracellular vesicles in Diamond-Blackfan Anaemia: a new diagnostic strategy*. PLoS One. 2015 Sep 22;10(9):e0138200
14. Aspesi A, Pavesi E, Robotti E, **Crescitelli R**, Boria I, Avondo F, Moniz H, Da Costa L, Mohandas N, Roncaglia P, Ramenghi U, Ronchi A, Gustincich S, Merlin S, Marengo E, Ellis SR, Follenzi A, Santoro C, Dianzani I. *Dissecting the transcriptional phenotype of ribosomal protein deficiency: implications for Diamond-Blackfan Anemia*. Gene 2014 Jul 25;545(2):282-9
15. **Crescitelli R**, Lässer C, Szabó TG, Kittel A, Eldh M, Dianzani I, Buzás EI, Lötval J. *Distinct RNA profiles in subpopulations of extracellular vesicles: apoptotic bodies, microvesicles and exosomes*. J Extracellular Vesicles 2013 Sep 12;2.
16. Montano G, Cesaro E, Fattore L, **Crescitelli R**, Izzo P, Turco MC, Costanzo P. *Role of WTI-ZNF224 interaction in the expression of apoptosis-regulating genes*. Hum Mol Genet. 2013 May 1;22(9):1771-82
17. Cesaro E, Montano G, Rosati A, **Crescitelli R**, Izzo P, Turco MC, Costanzo P. *WTI protein is a transcriptional activator of the anti-apoptotic bag3 gene* Leukemia. 2010 Jun;24(6):1204-6.