

Curriculum Vitae

Name: Rossella Titone, Ph.D
Ph.D in Biotechnology

Title: Staff Scientist

E-mail: rt@bioaffinitytech.com

Education:

2007	B.S. (Biotechnology), Palermo University, Italy
2009	M.S. (Biomedical Biotechnologies) 110/110 cum Laude, University of Siena, Italy
2015	Ph.D. in Biotechnologies for Human Health, University of Eastern Piedmont Thesis title: “THE ROLE OF AUTOPHAGY IN CANCER: FOCUS ON THE ONCOSUPPRESSOR BECLIN 1” Co-thesis advisors: Ciro Isidoro, M.D., Ph.D. and Beth Levine, M.D.
2017	“Postdoctoral Program in Research”, UT Southwestern Medical Center, Dallas, USA
2020	“Postdoctoral Program in Advanced Research”, UT Southwestern Medical Center, Dallas, USA

Externship Training:

05/2014 – 04/2015	Visiting Student Center of Autophagy Research Internal Medicine Department University of Texas UT Southwestern Medical Center
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Professional Experience:

05/2007 - 07/2007	Biomedical lab technician Abele Aiello Hospital, Italy
09/2010 - 05/2015	Pre-doctoral Fellowships Department of Health Science

	University of Eastern Piedmont, Italy
05/2014 - 04/2015	Visiting Researcher Junior Department of Internal Medicine UT Southwestern Medical Center
01/2016 - 03/2020	Postdoctoral Research Fellowship Department of Ophthalmology UT Southwestern Medical Center
04/2020 - 12/2022	Postdoctoral Scientist Texas Biomedical Research Institute
02/2022 – Present	Staff Scientist Diagnostic Research & Development bioAffinity Technologies, Inc.

Fellowships and Awards

2010- 2011

Pre-doctoral fellowship awarded by the "Associazione per la Ricerca Medica, Ippocrate-Rhazi" (Novara, Italy)

Principal Investigator: Prof. Ciro Isidoro, M.D., Ph.D.

"Role of PTEN in the regulation of autophagy in ovarian cancer"

2011-2014

Pre-doctoral Fellowship awarded by Lagrange Association

Principal Investigator: Prof. Ciro Isidoro, M.D., Ph.D.

"Cross-talk between autophagy and apoptosis: interacting domains, compartmentalization and role of Beclin 1 and its partners in the autophagy interactome"

2017

Postdoc Award "Spring 2017 PDA (Postdoc Association) Travel Awards" (UT Southwestern Medical Center, Dallas, TX, USA)

Principal Investigator: Danielle M. Robertson, O.D. Ph.D.

"Insulin regulates de novo nuclear trafficking of IGF-1/insulin Hybrid-R and metabolism in human corneal epithelial cells"

2018-2019

2018 Fight for Sight Postdoctoral Award:

Principal Investigator: Rossella Titone

Mentor: Danielle M. Robertson, O.D. Ph.D.

"Role of Autophagy in Pseudomonas aeruginosa Corneal Infection"

2019

Postdoc Award “Fall 2019 PDA (Postdoc Association) Travel Awards” (UT Southwestern Medical Center, Dallas, TX, USA)

Principal Investigator: Danielle M. Robertson, O.D. Ph.D.

“Insulin receptor preserves mitochondrial function by binding the voltage-dependent anion-selective channel 1 in insulin insensitive mucosal epithelial cells”

Professional Memberships:

- International Society for Advancement of Cytometry (ISAC)

Professional Service Appointments:

Meeting Chair/Moderator Roles:

- Moderator at Cornea and Ocular Surface Biology and Pathology Gordon Seminar, 2018.
- Moderator at the IGF and Insulin System in Physiology and Disease Gordon Seminar, 2019.
- Chair at Cornea and Ocular Surface Biology and Pathology Gordon Seminar, 2020.
- Abstract programming task force for Cell Bio Virtual 2021

Contributing Reviewer:

- Experimental Eye Research
- JSM Microbiology (JSciMed Central)
- Scientific Reports

Publications

1. Djurkovic MA, Leavitt CG, Arnett E, Kriachun V, Martínez-Sobrido L, **Titone R**, Sherwood L, Hayhurst A, Schlesinger LS, Shtanko O. (2023) Ebola Virus Uses Tunneling Nanotubes as an Alternate Route of Dissemination. J. Infect. Dis. 2023 Nov 13;228(Suppl 7):S522-S535. doi: 10.1093/infdis/jiad400.
2. Bauta W, Grayson M, **Titone R**, Rebeles J, Rebel V. (2023) Porphyrin-Modified Beads for Use as Compensation Controls in Flow Cytometry. J. Vis. Exp. 2023 March 10, e65294.
3. Maheshwari C, Vidoni C, **Titone R**, Castiglioni A, Lora C, Follo C, Isidoro C. (2022) Isolation, Characterization, and Autophagy Function of BECN1-Splicing Isoforms in Cancer Cells. Biomolecules. 2022 Aug 2;12(8):1069. PMID: 36008963
4. Bricker RL, Bhaskar U, **Titone R**, Carless MA, Barberi T. (2022) A Molecular Analysis of Neural Olfactory Placode Differentiation in Human Pluripotent Stem Cells. Stem Cells Dev. 2022 Sep;31(17-18):507-520. PMID: 35592997

5. Stuart W.L., **Titone R.**, Robertson D.M. (2022) IGFBP-3 functions as a molecular switch that mediates mitochondrial and metabolic homeostasis. *FASEB*. 2022 Jan;36(1):e22062. PMID: 34918377
6. Bogdan E., Stuart W.L., **Titone R.**, Robertson D.M. (2021). IGFBP-3 Mediates Metabolic Homeostasis During Hyperosmolar Stress in the Corneal Epithelium. *IOVS*. 2021 Jun 1;62(7):11. PMID: 34100890 PMCID: PMC8196413
7. **Titone R.** and Robertson D.M. (2019). Insulin receptor preserves mitochondrial function by binding VDAC1 in insulin insensitive mucosal epithelial cells. *FASEB*. Jan;34(1):754-775. PMCID: PMC7346881.
8. Kankuan K., Wanichanon C., Morani F., Thongrod S., **Titone R.**, Siangcham T., Masini M., Novelli M., Sobhon P., Isidoro C (2019). Starvation Promotes Autophagy-Associated Maturation of the Testis in the Giant. *Front. Physiol.* In press. DOI: 10.3389/fphys.2019.01219
9. Zhu L., **Titone R.** Robertson D.M. (2019). The impact of hyperglycemia on the corneal epithelium: Molecular mechanisms and insight. *The Ocular Surface*. DOI: <https://doi.org/10.1016/j.jtos.2019.06.007>.
10. **Titone R.**, Zhu M., Robertson D.M. (2018). Mutual regulation between IGF1R and IGFBP-3 in human cornea epithelial cells. *Journal of Cellular Physiology* 2018;1–16.
11. **Titone R.**, Zhu M., Robertson D.M. (2018). Insulin mediates de novo nuclear accumulation of the IGF1/insulin Hybrid Receptor in corneal epithelial cells. *Scientific Reports* 12;8(1):4378. PMCID:PMC5847585.
12. Stuart W., **Titone R.**, DM Robertson (2017). Tear Levels of Insulin-like Growth Factor Binding Protein 3 Correlate with Subbasal Nerve Plexus Changes in Patients with Type 2 Diabetes Mellitus. *IOVS* 1;58(14):6105-6112. PMCID:PMC5718599.
13. Ferraresi A, **Titone R.**, Follo C, Castiglioni A, Chiorino G, Dhanasekaran DN, Isidoro C. (2017). The protein restriction mimetic Resveratrol is an autophagy inducer stronger than amino acid starvation in ovarian cancer cells. *Mol Carcinog* 56(12):2681-2691.
14. Thuwajit C, Ferraresi A, **Titone R.**, Thuwajit P, Isidoro C (2017). The metabolic cross-talk between epithelial cancer cells and stromal fibroblasts in ovarian cancer progression: Autophagy plays a role. *Med Res Rev.* 38(4):1235-1254. PMCID:PMC6032948.
15. Kankuan W, Wanichanon C, **Titone R.**, Engsusophon A, Sumpownon C, Suphamungmee W, Morani F, Masini M, Novelli M, Isidoro C, Sobhon P (2017). Starvation Promotes Autophagy-Associated Maturation of the Ovary in the Giant Freshwater Prawn, *Macrobrachium rosenbergii*. *Front Physiol.* 12(8):300. PMCID: PMC5427116.
16. Tang H, Sebti S., **Titone R.**, Zhou Y, Isidoro C, Hibshoosh H, Xiao G, Packer M, Xie Y, and Levine B. Decreased BECN1 mRNA Expression in Human Breast Cancer is Associated with Estrogen Receptor-Negative Subtypes and Poor Prognosis (2015). *EBioMedicine*. 2(3):255-263. PMCID: PMC4376376.

17. Morani F, Phadngam S, Follo C, **Titone R**, Thongrakard V, Galetto A, Alabiso O, Isidoro C (2014). PTEN deficiency and mutant p53 confer glucose-addiction to thyroid cancer cells: impact of glucose depletion on cell proliferation, cell survival, autophagy and cell migration. *Genes Cancer*. 5(7-8):226-39. PMCID: PMC4162142.
18. Valente G, Morani F, Nicotra G, Fusco N, Peracchio C, **Titone R**, Alabiso O, Arisio R, Katsaros D, Benedetto C, Isidoro C (2014). Expression and Clinical Significance of the Autophagy Proteins BECLIN 1 and LC3 in Ovarian Cancer. *Biomed Res Int*. 2014:462658. PMCID: PMC4127242.
19. Morani F, Phadngam S, Follo C, **Titone R**, Aimaretti G, Galetto A, Alabiso O, Isidoro C (2014). PTEN regulates plasma membrane expression of glucose transporter 1 and glucose uptake in thyroid cancer cells. *J Mol Endocrinol*. 53(2):247-58.
20. Thongrakard V, **Titone R**, Follo C, Morani F, Suksamrarn A, Tencomnao T, Isidoro C (2014). Turmeric Toxicity in A431 Epidermoid Cancer Cells Associates with Autophagy Degradation of Anti-apoptotic and Anti-autophagic p53 Mutant. *Phytother Res*. 28(12):1761–1769.
21. Shuvayeva G, Bobak Y, Igumentseva N, **Titone R**, Morani F, Stasyk O, Isidoro C. Single Amino Acid Arginine Deprivation Triggers Prosurvival Autophagic Response in Ovarian Carcinoma SKOV3 (2014). *Biomed Res Int*. 2014:505041. PMCID: PMC4058691.
22. **Titone R**, Morani F, Follo C, Vidoni C, Mezzanzanica D, Isidoro C (2014) Epigenetic control of autophagy by microRNAs in ovarian cancer. *Biomed Res Int*. Epub; 2014:343542. PMCID: PMC4022060.
23. Vidoni C, **Titone R**, Morani F, Follo C, Isidoro C (2014). Epigenetic control of autophagy in cancer: the role of microRNAs. *MINERVA BIOTEC*; 26: 87-92.
24. Morani F, **Titone R**, Pagano L, Galetto A, Alabiso O, Aimaretti G, Isidoro C (2013). Autophagy and thyroid carcinogenesis: genetic and epigenetic links (2013). *Endocr Relat Cancer*; 21(1): R13-R29.

Complete list of Published Work in MyBibliography:

<https://www.ncbi.nlm.nih.gov/sites/myncbi/1XWN5x2xv9xQi/bibliography/51008371/public/?sort=date&direction=ascending>.

Research Presentations:

1. Development of porphyrin-stained polystyrene compensation beads for use on an automated analysis platform. **Titone R**, Bauta WE, and Rebeles J. Cyto 2023, May 20-24, Canada, Montreal, Quebec.
2. Tunneling nanotubes: “Intracellular highways” for Ebola virus dissemination in the host” **Titone R**. and Shtanko O. CELL Bio virtual 2021

3. Role of autophagy in *Pseudomonas aeruginosa* microbial keratitis. **Titone R.** and Robertson DM. Cornea and Ocular Surface Biology and Pathology Gordon Conference 2020, Renaissance Tuscany, Il Ciocco, Italy.
4. Role of autophagy in *Pseudomonas aeruginosa* infection. **Titone R.** and Robertson DM. Celebration of Women in Science, UT Southwestern Medical center, Dallas, 11 February 2020.
5. The role of insulin like growth factor binding protein 3 (IGFBP-3) in mitophagy in human corneal epithelial cells. Stuard W., **Titone R.**, Robertson DM. Celebration of Women in Science, UT Southwestern Medical center, Dallas, 11 February 2020.
6. IGFBP-3 mediates mitochondrial homeostasis during hyperosmolar stress in the corneal epithelium. Bogdan E., Stuard W., **Titone R.**, Robertson DM. 57th Annual Medical Student Research Forum. UT Southwestern Medical center, Dallas.
7. Insulin receptor preserves mitochondrial function by binding the voltage-dependent anion-selective channel 1 in insulin insensitive mucosal epithelial cells. **Titone R.** and Robertson DM. 2019 ASCB/EMBO, Washington DC, 7-11 December 2019.
8. The role of insulin-like growth factor binding protein 3 (IGFBP-3) in mitochondrial homeostasis in human corneal epithelial cells. Stuard W., **Titone R.**, Robertson DM. ARVO Annual Meeting 2019, Vancouver Convention Centre Vancouver, B.C., 28 April –2 May 2019.
9. Insulin mediates mitochondrial stability in corneal epithelial cells. Robertson DM, **Titone R.**, Stuard W., Zhu M. ARVO Annual Meeting 2019, Vancouver Convention Centre Vancouver, B.C., 28 April –2 May 2019.
10. Role of insulin in human mucosal epithelial cells”; **Titone R.** and Robertson DM. IGF and Insulin System in Physiology and Disease Gordon Conference and Seminar, Ventura, FL, 10-15 March 2019.
11. “Mutual regulation between IGF-1R and IGFBP-3 in human corneal epithelial cells”; **Titone R.**, Zhu M., and Robertson DM. Cornea and Ocular Surface Biology and Pathology Gordon Conference and Seminar, Ventura, FL, 17-23 February 2018.
12. “Insulin-like growth factor binding protein-3 in human corneal epithelial cells: role of “caretaker” or “gatekeeper”?”; **Titone R.**, Zhu M., and Robertson DM. Celebration of Women in Science, UT Southwestern Medical center, Dallas, 7 February 2018.
13. “IGF-1R regulates IGFBP-3 in human corneal epithelial cells”; **Titone R.** Robertson D.M. OU Vision Workshop, Oklahoma City, OK, USA, 28-29 September 2017.
14. “IGF-1R regulates IGFBP-3 in human corneal epithelial cells”; **Titone R.** Robertson D.M. Postdoc Symposium, UT Southwestern Medical center, Dallas, USA, 22 September 2017.

15. "Insulin regulates de novo nuclear trafficking of IGF-1/insulin Hybrid-R and metabolism in human corneal epithelial cells"; **Titone R.**, Zhu M., Zhou G., Robertson D.M. Department of Ophthalmology. ARVO Annual Meeting, Baltimore, MD, USA, 7-11 May 2017.
16. Regulation of glucose uptake by the PTEN/Akt axis in thyroid cancer cells: implications for FDG-PET diagnosis Berlin 4-6 September 2013 Workshop "Dual-Imaging of Nano/Microsized Theranostics.
17. In cell imaging: endocytosis and intracellular fate of Nanoparticles; Isidoro C., Vidoni C., **Titone R.**, Morani F., Follo, Ekkapongpisiti M. Berlin, Germany, 4-6 September 2013. Workshop "Dual-Imaging of Nano/Microsized Theranostics.
18. Imaging autophagy with fluorescent engineered biomolecules, Phadngam S., **Titone R.**, Morani F., Follo C., Isidoro C., Berlin, Germany 4-6 September 2013. Workshop "Dual-Imaging of Nano/Microsized Theranostics.
19. Cross-talk between autophagy and apoptosis: interacting domains, compartmentalization and role of beclin 1 and its partners in the autophagy interactome, **Titone R.**, Follo C., Morani F., Phadngam Sue, Isidoro C., Berlin, Germany, 4-6 September 2013 Workshop "Dual-Imaging of Nano/Microsized Theranostics"
20. Imaging the inflammatory secretory organelles of mastocytes with fluorescent nanoparticles; Isidoro C., **Titone R.**, Follo C., Ekkapongpisiti M., Berlin, Germany, 4-6 September Workshop "Dual-Imaging of Nano/Microsized Theranostics".
21. Fluorescent Biosensors for molecular imaging of autophagy in cancer cells; Follo C., Morani F., **Titone R.**, Turin, Italy, 26-28 May 2013, The 8th annual meeting of European Society for Molecular Imaging
22. Glucose Deprivation in Warburg Effect and Autophagy in Cancer Cells; Morani F., Follo C., **Titone R.**, Peracchio C., Dariozzi S. and Isidoro C., RGD-Ph.D. Congress XIV, April 5-7, 2013.
23. Autophagy as a Target for Anticancer Therapies with Natural Compounds; **Titone R.**, Morani F., Thongrakard V., Negro I., Vidoni C., Follo C. and Isidoro C., 2013 SNUCRI & SNUCH CANCER SYMPOSIUM, May 2-4, 2013 Phoenixisland, JEJU.
24. Transgenic expression of wild-type or phosphatase-deficient mutant PTEN restores sensitivity to Resveratrol in PTEN-deficient ovarian cancer cells; **Titone R.**, Morani F., Veneroni R., Castino R., Peracchio C., Giovina A., Follo C. and Isidoro C., EACR22, Barcelona, Spain, 7-10 July, 2012.
25. Transgenic expression of PTEN in PTEN-deficient ovarian cancer cells sensitizes to resveratrol toxicity via an Akt-independent pathway; Veneroni R., Morani F., **Titone R.**,

Peracchio C., Follo C., Castino R., Isidoro C.; 53rd ANNUAL MEETING OF THE ITALIAN CANCER SOCIETY, Turin, Italy, 19-22 October, 2011.

Teaching

- Teaching assistant for “Fundamentals of General Pathology and Immunology” for the Biology undergraduate program at the University Eastern Piedmont in Alessandria, Italy. FY 2013/2014, for a total of 20 hours teaching.
- NEI Journal Club Leader for the summer medical student research program. 2018

Workshops and Courses

- “Write Winning Grant Proposals” Boot Camp, Grant Writers Seminars and Workshops, LLC, The Center for Translational Medicine and the Office of Faculty Diversity & Development/Office of Women’s Careers, “Successfully Obtaining an R” (SOAR) Grant, Program, September 27th 2016.
- “Visual Communication” workshop, speaker: Kim Hoggatt Krumwiede, Ph.D. March 23rd 2017, UT Southwestern Medical Center, GradCareers.
- “Strategies and tactics for writing and publishing good research papers” workshop, speaker: Dr. Beth Schachter April 13th 2017, UT Southwestern Medical Center, GradCareers
- “Making the most of your presentation” workshop, speaker: Dr. Jean-luc Doumont October 5th 2017 UT, Southwestern Medical Center, GradCareers.
- “Online public speaking/presentations course”, teacher: Ramona Dorough. May 7th – 19th 2018, 20 hours course, UT, Southwestern Medical Center, GradCareers.
- “Cultivating Narrative for Effective Communication”, organizer: CoNNECT. Summer 2018, UT, Southwestern Medical Center, GradCareers.
- “Staff Scientist training”, teacher: Dr. Joanne Turner. Fall 2021. Texas Biomedical Research Institute.