Asiel A. Benitez, PhD

asielbenitez2000@gmail.com | www.linkedin.com/in/asiel-a-benitez-a2b4a294
New York, NY

PROFESSIONAL EXPERIENCE

Regeneron Pharmaceuticals, Inc., Tarrytown, NY *July 2016-present*

Principal Scientist, Immunology & Inflammation *December 2021-present*
-Leader of 6 therapeutic programs coordinating drug development from initial target validation to generation of lead therapeutic molecules.
-Manage team of PhD and M.Sc. scientists guiding the research to achieve goals as well as their career development.
-Guide the development of functional assays and immunoassays to screen therapeutic drug candidates and develop strategies for in-depth characterization of lead therapeutic molecules.

Scientist, Immunology & Inflammation *2019-2021*

EDUCATION AND TRAINING

Regeneron Pharmaceuticals, Inc., Immunology & Inflammation *2016-2019*
Postdoctoral Fellow
-Studied the synergy between central tolerance deficiency and immune-checkpoint inhibition to enhance antitumor responses.
-Performed in-depth characterization of tumor infiltrates and identified novel CD8 T-cell populations highly enriched with genes associated with potent anti-tumor responses and interferon stimulated genes.
-Implemented novel strategies to identify tumor-specific T-cell receptors in melanoma and carcinoma treated with immunotherapy.
-Developed models to study immune-related adverse events caused by checkpoint blockade.

Icahn School of Medicine at Mount Sinai, New York, NY *2011-2016*
Doctor of Philosophy, Biomedical Sciences; Emphasis: Microbiology/Molecular Virology
Advisor: Dr. Benjamin R. tenOever
Dissertation Title: Exploiting the mammalian miRNA machinery to study influenza A virus biology
Thesis work focused on co-opting the small RNA machinery to identify host/pathogen interactions, control virus replication, and generate safe and potent vaccine strategies. This work resulted in three Cell press publications (see below).

Honors and Awards:

- National Institute of General Medical Sciences (NIGMS) Ancillary Training Program Scholarship
- Ruth L. Kirschstein National Research Service Award for Individual Predoctoral Fellows (F31)
- Mechanisms of Virus-Host Interactions Training Program Scholarship (T32)
- Outstanding Service to a Fellow Graduate Student Award

William Patterson University, Wayne, NJ *2007-2011*
Bachelor of Science, Biotechnology
GPA: 3.99
Honors and Awards:

- First Place in Cell and Molecular Biology – Undergraduate Research Symposium
- Outstanding Senior Award in Biotechnology
- Dean's Award at Graduation for outstanding achievement in the College of Science and Health
- National Honorary Mathematics Society
- National Biological Honors Society
- Dean's List – Every Semester

PUBLICATIONS

Benitez AA, Khalil-Agüero S, Nandakumar A, Gupta NT, Zhang W, Atwal GS, Murphy AJ, Sleeman MA, Haxhinasto S. (2020) Absence of central tolerance in *Aire*-deficient mice synergizes with immune-checkpoint inhibition to enhance antitumor responses. *Nature Communications Biology,* 3, 355.

Muñoz-Moreno R, Martínez-Romero C, Blanco-Melo D, Forst CV, Nachbagauer R, **Benitez AA**, Mena I, Aslam S, Lee I, Balasubramaniam V, Panis M, Ayllón J, Sachs D, Park M, Krammer F, tenOever BR, García-Sastre A. (2019) Viral Fitness Landscapes in Diverse Host Species Reveal Multiple Evolutionary Lines for the NS1 Gene of Influenza A Viruses. *Cell Reports, 29, 3997-4009*.

Han J, Perez JT, Chen C, Li Y, **Benitez A**, Kandasamy M, Lee Y, Andrade J, tenOever B, Manicassamy B. (2018) Genome-wide CRISPR/Cas9 Screen Identifies Host Factors Essential for Influenza Virus Replication. *Cell Reports, 23, 596–607*.

Thapa RJ, Ingram JP, Ragan KB, Nogusa S, Boyd DxF, **Benitez AA**, Sridharan H, Kosoff R, Landsteiner VJ, Andrake M, Vogel P, Sigal LJ, tenOever BR, Thomas PG, Upton J, Balachandran S. (2016). DAI senses influenza A virus RNA and activates RIPK3-dependent cell death. *Cell Host & Microbe,* 20, 674–681.

Benitez AA, Spanko LA, Sachs D, tenOever BR. (2015). miRNA-mediated targeting can elicit antiviral protection that negates the requirement for the interferon response. *Cell Reports*, 13, 1456–1466.

Benitez AA, Panis M, Xue J, Varble A, Shim JV, Frick AL, Lopez CB, Sachs D, tenOever BR. (2015). In Vivo RNAi Screening Identifies MDA5 as a Significant Contributor to the Cellular Defense against Influenza A Virus. *Cell Reports*, 11, 1714-1726.

Varble, A., **Benitez, A.A.**, Schmid, S., Sachs, D., Shim, J.V., Rodriguez-Barrueco, R., Panis, M., Crumiller, M., Silva, J.M., Sachidanandam, R., et al. (2013). An in vivo RNAi screening approach to identify host determinants of virus. replication. *Cell Host & Microbe* 14, 346-356.

CONFERENCES

Keystone Symposia, Myeloid Cells: Development, Diversity and Distinct Biological Roles, Utah *April 2023*
Therapeutic Tolerance, Newcastle, England *June 2022*
Poster presentation: Understanding the molecular and cellular mechanisms of an autosomal dominant negative AIRE mutation and its contributions to autoimmune disease
Cytokines 2020, International Cytokine and Interferon Society, Seattle, Washington *November 2020*
AACR 2019: Tumor Immunology and Immunotherapy, Boston, Massachusetts *November 2019*
Poster presentation: Absence of central tolerance as a sculpting mechanism of immune-checkpoint therapy
AACR 2018: Tumor Immunology and Immunotherapy*,* Miami Beach, Florida *November 2018*
Keystone Symposia on T Cell Dysfunction, Cancer and Infection, Whistler, Canada *January 2018*
Keystone Symposia on Immune Regulation in Autoimmunity and Cancer, Whistler, Canada *March 2017*
Clinical Immunology Society 2017 Annual Meeting, Seattle, WA *March 2017*
29th Annual Virus and Host Symposium at the Icahn School of Medicine, New York, NY *June 2015*
Oral presentation: miRNA-mediated targeting provides a stable attenuation platform that negates the requirement for intrinsic antiviral defenses
Keystone Symposia on Viral Immunity, Breckenridge, CO *January 2015*
Oral presentation: An *in vivo* siRNA screen with influenza A virus identifies Ifih1 as a potent repressor of viral replication.
EMBO Conference on Human RNA Viruses, Istanbul, Turkey *October 2014*
Oral presentation: An *in vivo* siRNA screen with influenza A virus identifies Ifih1 as a potent repressor of viral replication.
25th Annual Virus and Host Symposium at the Icahn School of Medicine, New York, NY *June 2013*
Oral presentation: Defining the *in vivo* potency of virus activated genes in response to influenza.

TEACHING & MENTORING EXPERIENCE

Research Mentor, Regeneron Pharmaceuticals *2017-present*
Judge, Regeneron Westchester Science & Engineering Fair (WESEF) 2019
Organizer, Regeneron Pharmaceuticals Science to Medicine Forum (Immunology and Microbiology) 2018
Lecturer, Regeneron Pharmaceuticals Immunology Course (Innate Immunology) *2018*

Research Mentor, Icahn School of Medicine at Mount Sinai *2014-2016*
Science Tutor, William Paterson University *2009-2011*

LANGUAGE SKILLS

Spanish: Native and Professional Proficiency