Connecting Scientific Research to Patient Care

Vanessa Rivera-Amill, PhD
Scientific Director
**Mission**
To become the service model in high complexity diagnostic tests for Puerto Rico and the Caribbean.

**Vision**
To increase the spectrum, coverage, and overall efficiency of clinical referral services for our local community as well as the Caribbean region.
History of INNO Diagnostics
Reference Laboratory
(Immunology Reference Laboratory)

1991
AIDS Research Infrastructure Program founded by Yasuhiro Yamamura
In response to the emerging epidemic of HIV/AIDS among ethnic minorities

1991
Fully licensed clinical reference laboratory was established

Fully certified
PR Dept. of Health
CLIA
WHO HIV ResNet Accreditation for HIV genotyping

2019 Changed name to INNO DIAGNOSTICS (under the umbrella of Ponce Research Institute, a 501 c.3 non-profit entity)
Centrally located on the campus of Ponce Health Sciences University in Ponce (southcentral PR)

CLIA certified specialty areas:
- Hematology
- Immunology
- Virology
Leadership

Vanessa Rivera-Amill, PhD
Scientific Director
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Gerardo Hernández-Buitrago, PhD
Laboratory Director
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Iván Meléndez, MD
Clinical Consultant
Centro Ararat, Director

Kenira Thompson, Ph.D.
President, Ponce Research Institute
kthompson@psm.edu

Fully certified staff trained in high complexity diagnostic analysis
Capacity and Reach

- Current number of samples processed
- Types of testing
- Geographical reach
Capacity and Reach

Ongoing projects

• Molecular epidemiology of HIV migration
• Feasibility of implementing NGS-based genotyping
• Training and implementation of “In House” genotyping
Examples of studies for which we have provided support

• Detection of post-hurricane leptospirosis cases through enhanced surveillance for acute febrile illness in southern Puerto Rico
• Dengue virus immunity in endemic and non-endemic human cohorts
• Clinical and Neurodevelopmental Outcomes of Postnatally - acquired Zika Virus Infection among Children Aged <5 years
• Effects of Prefrontal Microglia Activation on PTSD-like Behaviors
• Targeting the Brain-Gut-Flora Axis using Probiotics in Endometriosis
• Zika virus sero-prevalence and assessment of the Dual Path Platform® Zika IgM assay to detect recent or current Zika virus infection
Capacity building for SARS-CoV-2 diagnostic test implementation

**Inno Diagnostics Needs**
- Committed to furthering programs to enhance our capacity to strengthen detection and response to arboviral infections
- Our lab is accredited by WHO
  - Other infrastructure requirements
- Focus on emergent technologies: associated costs
- Be sustainable over periods of relative inactivity

**Puerto Rico Needs**
- Establishment of laboratory networks technical assistance through cooperation between laboratories
- Awareness of existing laboratory capacity and personnel
- Utilize laboratories and faculty in academic settings
- Protection of their scientific contribution
Sample collection began on March 20, 2020
¡ESTAMOS CONTIGO!

Si tienes preguntas sobre el COVID-19 o necesitas apoyo emocional queremos que sepas que cuentas con un grupo de profesionales dispuestos a ayudarte.

LUNES A VIERNES
9:00 AM A 5:00 PM

¡TE QUEREMOS SALUDABLE!

¡QUÉDATE EN TU CASA SALVA VIDAS!

¡LLÁMANOS!
(787) 843-7128

1. IMPORTANTE
Debe haberse hecho las pruebas de Influenza y Mycoplasma.

2. DEBE LLAMAR
Es por cita previa y con referido médico llamando al Call Center 787-580-0222 de 8:00 a.m. a 4:30 p.m.

3. HORARIO
Las pruebas serán tomadas en la modalidad de servi-carro de lunes a viernes de 7:30 a.m. a 3:00 p.m.

4. PROCEDIMIENTO
1) Se le tomarán los datos por teléfono antes de pasar al área designada. 2) Se le realizará la prueba sin bajarse del auto.

#QuédateEnTuCasa por tu bien y el de los tuyos
INNO DIAGNOSTIC REFERENCE LAB
388 Calle Luis F. Sala
Ponce, PR 00732
Addressing SARS-CoV-2 sample collection: Viral Transport Medium

• Centers for Disease Control and Prevention (SOP#: DSR-052-01)
• Reagents
  – Fetal Bovine Serum (FBS)
  – Hanks Balanced Salt Solution (HBSS) 1X with calcium and magnesium ions, no phenol red, 500 mL bottle
  – Sterile, heat-inactivated fetal bovine serum (FBS)
  – Gentamicin sulfate (50 mg/mL)
  – Amphotericin B (250 µg/mL)

• References:
  – Biosafety in Microbiological and Biomedical Laboratories (BMBL), current edition.
Lab-developed SARS-CoV-2 Real-time RT-PCR

• Intended for the qualitative detection of nucleic acid from the SARS-CoV-2 in respiratory specimens
  – Nasopharyngeal swabs, oropharyngeal swabs; other specimens may be appropriate.
• Limited to Inno Diagnostics (Laboratorio de Referencia en Inmunología, Lic. 819).
• The test utilizes the CDC-developed assay that targets the Nucleocapsid gene of this virus.
• **Instruments used with the test:** Qiagen Viral RNA kit and Roche LightCycler 480 I, Roche LightCycler 480 II and Bio-Rad CFX96.
Lab-developed: SARS-CoV-2 RT-PCR and Sequencing

• Intended for the qualitative detection of nucleic acid from the SARS-CoV-2 in respiratory specimens
  – Nasopharyngeal swabs, oropharyngeal swabs; other specimens may be appropriate.

• Limited to Inno Diagnostics (Laboratorio de Referencia en Inmunología, Lic. 819).

Instruments used with the test

• Qiagen Viral RNA kit, One Step RT-PCR kit (Qiagen), Roche FastStart PCR master (Roche), BigDye Terminator v3.1 Cycle sequencing kit (LifeTechnologies).

• Thermocyclers: PE Applied Biosystem GeneAmp PCR System 9700, PE Applied Biosystem GeneAmp fast PCR System 9800, Veritti 96 well thermal cycler or Veritti 96 well fast thermal cycler.

• DNA analyzer: 3730/3730XL
Flow Cytometry

FACSCalibur: use of multiple fluorochromes (FITC/PE/PerCP/APC) to effectively identify and isolate subset populations in a single sample.

BD FACSaria I: Cell Sorter: Enables multicolor analysis of up to 10 fluorescents markers and two scatter parameters at the same time. We have the capacity to separate 4 subsets of cells at the same time.

BD FACSMelody cell sorter combines proven and exclusive BD technology of high-end sorters with new automation and simplified software.
The MiSeq System: Next-Generation Sequencing

- Base calls are made directly from signal intensity measurements during each cycle, greatly reducing raw error rates compared to other technologies.
Luminex MAGPIX

- The Luminex MAGPIX analyzer detects up to 50 analytes per sample and reads a 96-well-plate in just 60 minutes. The procedure could be performed by using as little as 25µl of samples.
THE FACTS IN NUMBERS

PATIENT SAMPLES COLLECTED
572
March 20, 2020–present

FULLY CERTIFIED STAFF
15

CALL CENTER VOLUNTEERS–FACULTY STUDENTS STAFF
25+

CURRENT PROTOCOLS IN PROCESS TO EXPEDITE COVID-19 TESTING
3+
ONE DAY AT A TIME.

every day

HOPING

FOR A BETTER TOMORROW
Thank you!

Bringing together experts to help expedite diagnosis, treatment, and prevention of diseases.

For more information:
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