Faculty

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Rank/Discipline

Assistant Professor
Pharmacology and Pharmacogenomic
Department of Pharmaceutical Sciences

Education & Specialty Certification

Postdoctoral Masters in Clinical and Translational Research (MSc). UPR- Medical Sciences Campus. 2018.

Bianca A. Torres-Hernández, PhD, MSc

Research Areas and Active Projects

In my laboratory, we are interested in studying neuropsychiatric conditions. Of particular emphasis are the two most common psychiatric illnesses in Puerto Rico: anxiety and depression Our current research aims to identify genetic variants that can be used as predictors for treatment response in psychiatric conditions. By better understanding the effect of these variants, we will develop risk scores using genetic markers as well clinical factors that are relevant to our Puerto Rican population.

We are also exploring the relationships between certain genetic variants and the use of natural products and other integrative therapies in addition to pharmacological treatments.

Publications

D.F. Hernández-Suarez, K. Claudio-Campos, J.E. Mirabal-Arroyo, **B.A. Torres-Hernández**, A. López-Candales, K. Melin, and J. Duconge. "Potential of a Pharmacogenetic-Guided Algorithm to Predict Optimal Warfarin Dosing in a High-Risk Hispanic Patient: Role of a Novel NQO1*2 Polymorphism". J Investig Med High Impact Case Rep. 2016 Dec 1;4(4) DOI: 10.1177/2324709616682049.

B.A. Torres-Hernández, L.R. Colón, C. Rosa-Falero, A. Torrado, N. Miscalichi, J.G. Ortiz, L. González-Sepúlveda, N. Pérez-Ríos, E. Suárez-Pérez, J.N. Bradsher, and M. Behra. "Reversal of pentylenetetrazole-altered swimming and neural activity-regulated gene expression in zebrafish larvae by valproic acid and valerian extract". Psychopharmacology (2016) 233:2533-2547 DOI 10.1007/s00213-016-4304-z.

B.A. Torres-Hernández, L.M. Del Valle-Mojica, and J.G. Ortíz. "Valerenic Acid and *Valeriana officinalis* Extracts, Delay Onset of Pentylenetetrazole (PTZ)-Induced Seizures in Adult Danio rerio

Philosophical Doctorate (Ph.D.), Pharmacology and Toxicology, UPR- Medical Sciences Campus, 2014.

Bachelor of Science (B.S.), Chemistry. UPR- Rio Piedras Campus. 2007.

(Zebrafish)" BMC Complementary and Alternative Medicine (2015) 15:228 DOI 10.1186/s12906-015-0731-3.

L.M. Del Valle-Mojica, J.M. Cordero-Hernández, G. González-Medina, I. Ramos-Vélez, N. Berríos-Cartagena, **B.A. Torres-Hernández**, and J.G. Ortiz. "Aqueous and Ethanolic *Valeriana officinalis* Extracts Change the Binding of Ligands to Glutamate.

Receptors" Evidence-Based Complementary and Alternative Medicine, vol. 2011, Article ID 891819, doi:10.1155/2011/891819.

L.M. Del Valle-Mojica, Y.M. Ayala-Marín, C.M. Ortiz-Sanchez, B**.A. Torres-Hernández**, S. Abdalla-Mukhaimer, and J.G. Ortiz, "Selective Interactions of *Valeriana officinalis* Extracts and Valerenic Acid with [^{3}H]Glutamate Binding to Rat Synaptic Membranes," Evidence-Based Complementary and Alternative Medicine, vol. 2011, Article ID 403591, doi:10.1155/2011/403591.

Presentations

Poster Presentations

Bianca A. Torres-Hernández, Jessicca Y. Renta Torres and Jorge Duconge Soler. "Multigene analysis to predict psychological symptoms among Puerto Rican patients with DRE". 2019. Advances in Genome Biology and Technology Precision Health 2019 Meeting. California, USA.

Bianca A. Torres-Hernández, Jessicca Y. Renta Torres, Miriam E. Rios Motta and Jorge Duconge Soler "CYP450 Polymorphisms and multigene analysis as predictor of psychological symptoms among Puerto Rican patients with Drug Resistant Epilepsy".2019. Puerto Rico Clinical Research Summit: Connecting the World. San Juan, Puerto Rico.

Bianca A. Torres-Hernández, Jessicca Y. Renta Torres and Jorge Duconge Soler. "Multigene analysis to predict psychological symptoms among Puerto Rican patients with Drug Resistant Epilepsy". 2019. UF Precision Medicine Conferences. Florida, USA.

B.A. Torres-Hernández, M. E. Rios Motta, J.Y Renta and Jorge Duconge Soler . "Association between CYP450 Polymorphisms and psychological symptoms among patients with DRE". 2018. Advances in Genome Biology and Technology Precision Health 2018 Meeting. California, USA.

B.A. Torres-Hernández, M. E. Rios Motta, A. LLerena, and J. Duconge Soler. “Association between CYP450 Polymorphisms and the use of Complementary Medicine among Patients with Drug-resistant Epilepsy in Puerto Rico” 2017. 2017 Translational Science Conference, Washington DC, USA.

B.A. Torres-Hernández, Y. Santiago-Cruz, Z.E. Toledo-Nieves, and J.G. Ortiz. “Interactions with ionotropic Glutamate receptor may explain anticonvulsant properties of *Valeriana officinalis* ethanolic extract in Danio rerio (zebrafish)"; 2013. 30th International Epilepsy Congress; Montreal, Canada.

B.A. Torres-Hernández, L.M. Del Valle-Mojica, C. Rosa-Falero, and, J.G. Ortiz. “Anticonvulsant Properties of Valerian Extracts and Valerenic Acid in Adult Zebrafish (Danio Rerio)” 2011. 23rd Biennial Meeting ISN-ESN 2011; Athens, Greece.

B.A. Torres-Hernández, L.M. Del Valle-Mojica, S. Torres, and J.G. Ortiz. “Anticonvulsant effects of *Valeriana officinalis* in adult zebrafish”; 2009. 18th Annual Puerto Rico Neuroscience Conference; Ponce, PR.

B.A. Torres-Hernández, J. Cintrón, D. Torres, Y. Ayala, L. Del Valle, C. Manzano, and J.G. Ortiz. “*Valeriana officinalis* Extracts: Stability and changes in [^{3}H] Glutamate Receptor Binding”; 2009. APS Professional Skills Training short course on "Presentation Skills: Critical Firsts" Orlando, FL, USA”.

Oral Presentations

Bianca A. Torres-Hernández, Jessicca Y. Renta Torres and Jorge Duconge Soler. “Multigene analysis to predict psychological symptoms among Puerto Rican patients with Drug Resistant Epilepsy”. 2019. UF Precision Medicine Conferences. Advancing Precision Medicine One Patient at a Time: Rapid Fire Oral Presentations. Florida, USA.

B.A. Torres-Hernández, Y. Santiago-Cruz, M. Santiago-Vázquez, K.L. Serrano-Vázquez, and J.G. Ortíz. “Valerenic acid and Valerian extract Anticonvulsant effects: Interactions with Glutamate receptors”. 2014. 34th Annual Research and Education Forum Medical Sciences Campus, San Juan, PR.

C. Rosa-Falero, B.A. Torres-Hernández, J.G. Ortíz, and M. Behra. "Modulation of Hyperactivity in Zebrafish Larvae by Two Plants Extracts"; 2014. 34th Annual Research and Education Forum Medical Sciences Campus, San Juan, PR.

B.A. Torres-Hernández, Y. Santiago, Z. Toledo, M. Santiago, and J.G. Ortíz. "Anticonvulsant properties of *Valeriana officinalis* ethanolic extract: Interactions with Glutamate or Adenosine (A1) receptors"; 2012. 1st symposium of Graduate Student Association (AEG), San Juan, PR.

B.A. Torres-Hernández, and J.G. Ortíz. "Synergism of Phenytoin with Ethanolic Valerian Extract to Control Convulsion in adult Zebrafish (Danio rerio)"; 2012. X Researchers Annual Meeting University of Turabo, PR.

B.A. Torres-Hernández, L.M. Del Valle-Mojica, C. Rosa-Falero and J.G. Ortíz. "Anticonvulsant properties of Valerian extracts and Valerenic Acid"; 2011; XXXI Medical Sciences Campus 34th Annual Research and Education Forum, San Juan, PR.

B.A. Torres-Hernández, L.M. Del Valle-Mojica, S. Torres-Rodriguez, C. Rosa-Falero and J.G. Ortiz. "Anticonvulsant effects of *Valeriana officinalis* in adult zebrafish"; 2010. XXX Medical Sciences Campus Annual Research and Education Forum, San Juan, PR.

B.A. Torres-Hernández, J.M. Cordero-Hernández, G. González-Medina, N. Berrios-Cartagena, J. Cintrón, D. Torres, Y. Ayala, L. Del Valle, and J.G. Ortiz. "*Valeriana officinalis* Extracts: Solvent, and changes in Glutamate Receptor Binding"; 2009. V Interdisciplinary Scientific Research Congress; Santo Domingo, Dominican Republic.