

circumsporozoite derived synthetic vaccine construct. *Vaccine*. 2014 May 30;32(26):3179-86. Apr 13. PMID:24731811.

- Arévalo-Herrera, M., Vera, O., Castellanos, A., Céspedes, N., Soto, L., Corradin, G., Herrera, S. 2011. Preclinical vaccine study of *Plasmodium vivax* circumsporozoite protein derived-synthetic polypeptides formulated in montanide ISA 720 and montanide ISA 51 adjuvants. *Am. J. Trop. Med. Hyg.* 84(2):21-27.
- Villard V, Agak GW, Frank G, Jafarshad A, Servis C, Nébié I, Sirima SB, Felger I, Arevalo-Herrera M, **Herrera S**, Heitz F, Bäcker V, Druilhe P, Kajava AV, Corradin G. Rapid identification of malaria vaccine candidates based on alpha-helical coiled coil protein motif *PLoS One*. 2007 Jul 25;2(7): e645. PMID:17653272.

3. The results obtained in the *P. vivax* pre-clinical studied using synthetic peptides derived from the PvCS protein allows us to continue our proposed pipeline of PvCS vaccine development and several phase I and II clinical trial were performed using this candidate formulated in commercial available adjuvant for human use (Montanide ISA720 and ISA51). In addition, the operative mosquito facilities of *An. albimanus*, allows to carried out three Controlled Human Malaria Infection trial using *P. vivax* sporozoite, and immunization of volunteers with Pv irradiated sporozoite. More recently a Phase II trial in malaria naïve and pre-immune individuals using PvCS protein was also conducted (publication in preparation). In addition, both proteomics and transcriptomic analyses has been performed using samples from volunteers infected using the developed *Plasmodium vivax* challenge infections model. So far, we are the only group in Latin America with these records of *P. vivax* clinical trial, which represent a very important contribution to *P. vivax* malaria vaccine development. In addition, during the last decade

- Rojas-Peña ML, Duan M, Arafat D, Rengifo L, **Herrera S**, Arévalo-Herrera M, Gibson G. Individualized Transcriptional Resolution of Complicated Malaria in a Colombian Study. *J Pers Med*. 2018 Sep 14;8(3). pii: E29. doi: 10.3390/jpm8030029. PMID: 30223463
- Arévalo-Herrera, M and **Herrera, S**. 2014 Malaria Vaccine Development: Over 40 Years of Trials and Tribulations - *Plasmodium vivax* vaccine development in Colombia advances and challenges. *Future Medicine*. Book chapter. Pages 48-63 doi: 10.2217/fmeh2013.13.174
- **Herrera, S.**, Fernández, O., Vera, O., Cárdenas, W., Ramírez, O., Palacios, R., Chen-Mok, M., Corradin, G.P., Arévalo-Herrera, M. 2011. Phase I Safety and Immunogenicity Trial of *Plasmodium vivax* CS Derived Long Synthetic Peptides Adjuvanted with Montanide ISA 720 or Montanide ISA 51. *Am. J. Trop. Med. Hyg.* 84(2):12-20.
- Rojas-Peña ML, Vallejo A, Herrera S, Gibson G, Arévalo-Herrera M. Transcription Profiling of Malaria-Naïve and Semi-immune Colombian Volunteers in a *Plasmodium vivax* Sporozoite Challenge. *PLoS Negl Trop Dis*. 2015 Aug 5;9(8):e0003978.

Complete List of Published Work in My Bibliography:

<http://www.ncbi.nlm.nih.gov/sites/myncbi/socrates.herrera.1/bibliography/44153827/public/?sort=date&direction=ascending>

D. Additional Information: Research Support and/or Scholastic Performance

Ongoing Research Support

- **Sistema General de Regalías BPIN: 2014000100013 2017-2019**

Implementación Programa Multisectorial para la disminución de la carga de la Malaria en el Litoral Pacífico Colombiano. Role: PD

- **5R01A1121237-02 NIAID/NIH**

2016 - 2021

Plasmodium vivax 48/45 gametocyte protein: functional characterization and vaccine potential assessment in preclinical studies. Role: Co-PI

- Sistema General de Regalías BPIN: 2016000100007 Arévalo (PD) 2019 - 2020

Estudio de la prevalencia de los Errores Innatos del Metabolismo (EIM) por espectrometría de masas en tándem en el Valle del Cauca. Role: Co-PI

Completed Research Support

NIH U19AI089702 Herrera (PD) 2010-2017

Latin American Center for Malaria Research and Control, CLAIM. International Centers of Excellence for Malaria Research ICEMR/NIH. Role: Project 1. Role: PD/PI

529-2009 Colciencias 2009 – 2015

Evaluation of the protective efficacy of a synthetic vaccine derived from the CS protein of *Plasmodium vivax*. Role: PI

Colciencias 045-2013 2013 - 2015

Evaluación preclínica de una vacuna de segunda generación contra la malaria basada en la proteína CS de *Plasmodium vivax*. Role: PI

Colciencias 685-2013 2013 – 2015

Inmunogenicidad y capacidad bloqueadora de la transmisión del antígeno de *P. vivax* Pvs48/45 en un esquema de inmunización/refuerzo/reto en monos Aotus. Role: Co-PI

PATH GAT.0888-11-06147-COL 2013 – 2015

An optimized *P. vivax* Direct Membrane Feeding Assay (DMFA) to Reliably Assess Transmission Blocking Immunity. Role: PI

360-2011 Colciencias 2012 - 2015

Multidisciplinary network for control and prevention of vector transmission diseases. Role: PD/PI

578-2008 Colciencias 2009 – 2014

Rapid identification and preclinical evaluation of new *P. vivax* vaccine candidates based on alpha helical coiled-coil protein motifs. Role: PI

5R01HL086488-4 NIH/NHLBI 2007 – 2014

Development of a *P. vivax* immunization sporozoite challenge model for human. Role: PI

NIH AI047089 2007- 2012

A DNA Vaccine to Prevent Transmission of Human Malaria. Role: Co-PI

NIH – TMRC AI49486-01 2001- 2007

Translation research in *P. vivax* from protective immune mechanisms to vaccine development. Role: PD

IMRTP – Fogarty 2002 - 2005

Malaria Vaccine Development: Understanding Anemia. Role: PI

EUROPEAN COMMISSION ICA4-CT- 2001-10078 2001-2004

Clinical and Preclinical evaluation of Fosmidomicyn. Role: PI