Institute for In Vitro Sciences, Inc
30 W Watkins Mill Road #100
Gaithersburg, Maryland 20878

Curriculum Vitae
Dr. Ryan Thomas Hitzman

Education

2021 Ph.D. (Pharmacognosy), University of Illinois at Chicago, IL, USA
2015 B.S. (Biology), University of Illinois at Chicago, IL, USA

Experience

2022 – present Study Director/Toxicologist I – Institute for In Vitro Sciences, Inc.

Assist commercial clients in developing appropriate *in vitro* toxicology programs for their products. Interact with industry, animal welfare groups and government as necessary to discuss use of *in vitro* methods. Perform Study Director responsibilities for *in vitro* GLP/non-GLP toxicology assays, including 3D ocular ad skin irritation testing. Participate in identifying, developing, and commercializing novel *in vitro* toxicology assays.

2021 – 2022 Postdoctoral Fellow – National Institutes of Health

Studied epigenetic mechanisms for their roles in cancer and development. Utilized *in vitro* and *in vivo* models to assess acetylation of tRNA and rRNA and proteins involved in acetylation. Discovered that the acetylation catalytic domain of NAT10 is necessary for embryonic development.

2016 – 2021 Graduate Predoctoral Fellow– University of Illinois at Chicago

Studied the role of women's health botanicals on estrogen metabolism. Focused on crosstalk between the aryl hydrocarbon receptor (AhR) and the estrogen receptor and the role of natural products on AhR activation, and downregulation of the genotoxic 4-hydroxylation of estradiol. Discovered that 6-prenylnaringenin increases estrogen detoxification. Investigated the absorption and distribution of prenylated hop compounds.

2015 – 2016 Visiting Research Associate

Investigated GSK-3 inhibitors for their potential to improve cardiac repair after myocardial infarction. Discovered a role for NANOG in myocardial endothelium repair.

Scientific Awards and Recognitions

2017 NCCIH/NIH Ruth L. Kirschstein National Research Award F31

2018 Edward Benes Scholarship

Professional Affiliations

American Chemical Society (Since 2016)
American Society of Pharmacognosy (Since 2016)
International Society for the Study of Xenobiotics (Since 2016)

Published manuscripts

Hitzman R, Dunlap T, Dietz B, Howell C, Chen SN, Vollmer G, Pauli G, Bolton J, Dietz B. (2020) 6-Prenylnaringenin from Hops Disrupts Era-Mediated Downregulation of CYP1A1 to Facilitate Estrogen Detoxification. *Chem Res Toxicol*. 33(11):2793-2803.

Mbachu O, Howell C, Simmler C, Malca Garcia G, Skowron K, Dong H, Ellis S, **Hitzman R,** Hajirahimkhan A, Chen SN, Nikolic D, Moore T, Vollmer G, Pauli G, Bolton J, Dietz B. (2020) SAR Study on Estrogen Receptor α/β Activity of (Iso)flavonoids: Importance of Prenylation, C-Ring (Un)Saturation, and Hydroxyl Substituents. *J Agric Food Chem*. 68(39):10651-10663.

Baruah J, Chaudhuri S, Mastej V, Axen C, **Hitzman R**, Ribeiro I, Wary K. (2020). Low-Level Nanog Expression in the Regulation of Quiescent Endothelium. *Arteriosclerosis, Thrombosis, and Vascular Biology. 40*:2244-2264.

Baruah J, **Hitzman R**, Zhang J, Chaudhuri S, Mastej V, Wary K. (2017). The allosteric glycogen synthase kinase-3 inhibitor NP12 limits myocardial remodeling and promotes angiogenesis in an acute myocardial infarction model. *The Journal of Biological Chemistry, 292*:20785-20798.