

Ivan K. Domingo

MSc – Immunology and Infections (Specialization)

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Ivan is a research assistant and lab technician at the Riddell Lab at the University of Alberta. He currently helps investigate the roles of syncytiotrophoblast cell polarity and inflammasome activity on placental epithelial cell death regulation and provides general assistance with lab management. He also assists with bioinformatic approaches to characterize the effects of factors such as advanced age and inflammatory responses on pregnancy.

Before acquiring his position at the University of Alberta's Department of Obstetrics and Gynecology, Ivan earned his Master's Degree in Immunology and Infections in the Department of Medical Microbiology and Immunology. Under the supervision of Dr. Amit P. Bhavsar, Ivan became experienced in various techniques related to cell culture, protein purification and quantitation, DNA sequencing, and functional genomics. With the support of Dr. Marek Michalak and Dr. Jody Groenendyk, Ivan developed a protocol for using microscale thermophoresis to study the binding interactions between Toll-like Receptor (TLR4) and metal allergens independent of other cellular factors. By the end of his graduate studies, Ivan had contributed to and authored several publications about adverse drug reactions to fundamental chemotherapeutics.

His article, “Cisplatin toxicity is mediated by direct binding to TLR4 through a mechanism that is distinct from metal allergens,” provided a mechanistic explanation for reports implicating pro-inflammatory pattern-recognition receptor, TLR4, in cisplatin-induced toxicities. This earned him recognition as *Molecular Pharmacology's* Highlighted Trainee Author for March 2023. He also garnered other awards, such as the John Thibault Memorial Travel Award, over the course of his graduate studies.