

April 8, 2019

To whom it may concern:

I hereby certify that Dr. Ernesto Miranda, Graduate student in the laboratory of Dr. Salas, completed a 4-month fellowship (April 1-Aug 1, 2018) in my laboratory at the BC Children's Hospital Research Institute (BCCHR), Dept. Medical Genetics-UBC.

Dr. Miranda is part of the Biomedical Sciences Doctorate Program, Instituto de Investigación Científica "Dr. Roberto Rivera Damm", Universidad Juárez del Estado de Durango. His work was part of the collaborative project between our labs entitled: **Characterization of Methylation Profiles in *SNCA*, *MAPT* and *PARK16* in Leucocytes of Mexican Subjects with Parkinson's Disease (PD)**. As part of this project, Dr. Miranda analyzed the methylation status of *SNCA*, *MAPT* and *PARK16* in **108 cases of PD and 108 controls** plus an additional 5 cases of Alzheimer's disease utilizing pyrosequencing.

During his work in my lab, Dr. Miranda became proficient in the various components of the pyrosequencing protocol, including the following: bisulfite conversions, primer/assay design (Assay Design Software V2.0 Qiagen/Biotage), assay standardization with methylation controls, end-point PCR, preparation and interpretation of agarose gels, sample runs and troubleshooting using a Pyromark Q96 MD instrument (Qiagen), data collection (utilizing Pyro Q CpG software v1.0.9-Qiagen/Biotage) and data analysis. Additionally, he actively participated and presented his work in our weekly lab meetings, assisted in various lab activities, interacted with other research colleagues and attended many seminars at the BCCHR.

It was a pleasure to host Dr. Miranda in our lab for the duration of his fellowship. He demonstrated an outstanding work ethic, an ability to focus and overcome technical difficulties and a remarkable interest in learning. He showed great ability to work independently with minimal supervision and as part of our team. I would be happy to address any questions regarding this certificate.

Sincerely,



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