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LETTER OF SUPPORT

March 7, 2019

RE: Marjan Yaghmaie, PhD

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To Whom It May Concern:

Dr. Yaghmaie has been a visiting scientist at the Seattle Cancer Care Alliance (SCCA; jointly operated by the Fred Hutchinson Cancer Research Center [Fred Hutch], University of Washington [UW] Medicine, and Seattle Children's Hospital) and the University of Washington Pathology Laboratory of Dr. Risques from October 10, 2018 to March 20, 2019.

Dr. Yaghmaie has split her time between Dr. Min Fang's laboratory at the SCCA and Dr. Rosana Risques' laboratory at UW Pathology. Dr. Fang runs a large laboratory of molecular cytogenetics, which serves patients at the SCCA and the UW system. At Dr. Fang's laboratory, Dr. Yaghmaie familiarized herself with a variety of techniques including chromosome genomic array and validations on updated protocols for fluorescence in situ hybridization (FISH) and karyotyping, both in hematologic malignancies and solid tumors. In Dr. Risques' lab at UW Pathology, she had training in CRISPR/duplex and duplex sequencing.

Furthermore, under the supervision of Professors Estey and Fang, Dr. Yaghmaie carried out a research project on acute myelocytic leukemia (AML) entitled, "Detection of Minimal Residual Disease (MRD) by Multimodality Testing in AML Patients Post Induction Chemotherapy." A second research project under guidance of both Professor Fang and Dr. Shadman, involved work on chronic lymphocytic leukemia, "Evaluation of P53 Mutations in CLL Patients who Failed both Chemotherapy and Novel Agents Without High Risk Markers by Duplex Sequencing and CRISPR Duplex Sequencing".

She presented her work at several lab meetings and received very positive feedback from attendees.

Under Dr. Risques' supervision, Dr. Yaghmaie has been conducting a data analysis of a project entitled, "Comparison of TP53 Mutations in Normal Fallopian Tube Epithelium and in Blood of BRCA1 + Women and Controls". Dr. Yaghmaie anticipates writing one publication each from these three research projects.

In addition, Dr. Yaghmaie had discussions with Dr. Cecilia Yeung from the Hematopathology Laboratory at the SCCA/UW regarding a project in patients with acute promyelocytic leukemia. This project will involve a future collaboration between the SCCA/Fred Hutch and the Hematology/Oncology and Stem Cell Transplantation Research Center at Tehran University of Medical Sciences.

Already, Dr. Yaghmaie has begun writing a review article under supervision by Dr. Yeung about "Clinical Applications of Array-Comparative Genomic Hybridization in Myeloid Neoplasms."

While in Seattle, Dr. Yaghmaie additionally familiarized herself with the organization of the Clinical Research Division of the Fred Hutch and the SCCA, which includes the Inpatient and Outpatient Hematopoietic Cell Transplantation (HCT)/Immunotherapy Services and the Long-Term Follow-up Group. She participated in morning patient rounds of the HCT Services under my supervision.

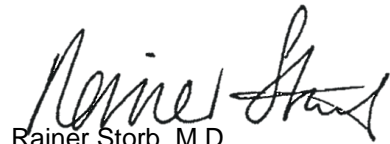
Additionally, Dr. Yaghmaie has used her time to attend a number of standing meetings which include UW Pathology Grand Rounds, Oncology Grand Rounds at Fred Hutch, Hematology Grand Rounds at Fred Hutch, Monday noon research seminars at Fred Hutch, Patient Care Conference at Fred Hutch, other seminars and journal clubs at Fred Hutch, the weekly Lymphoma Meeting at the SCCA, the Renal Oncology Committee Meeting at the SCCA, Friday Lab Meetings with Professor Larry Loeb, and the weekly AML meetings under the leadership of Professor Estey. She attended, furthermore, a deep-

sequencing seminar at the South Lake Union facilities of the University of Washington. She visited the HLA and Clinical Immunology Labs at the SCCA, which are under the supervision of Dr. Gana Balgansuren. At Fred Hutch, she visited Prof. Soheil Meshinchi to familiarize herself with his research projects in pediatric acute leukemias. Moreover, Dr. Yaghmaie visited the flow cytometry laboratories at a private company called Hematologics, Inc., which is run by Dr. Michael Loken. Finally, she visited the Molecular Service laboratories at UW, which are focused on hematologic malignancies.

In summary, Dr. Yaghmaie has made very good use of her visiting scientist stay at the SCCA, Fred Hutch, and UW Pathology laboratories. She has been very hard-working and productive, and her stay here will likely result in four publications in scientific journals. She integrated extremely well in the two labs and established excellent and very collegial relationships with the other lab members, which included postdocs, staff scientists and technicians. I talked to Dr. Fang about Dr. Yaghmaie's performance, and she was quite impressed by her pleasant and warm personality, her quick learning, her technical precision, her integrity, and her strong work ethic.

It has been a true pleasure hosting Dr. Yaghmaie during the past 5½ months and seeing her integrate quickly in the new and very competitive work environment both at UW and the SCCA/Fred Hutch. I recommend her for future leadership positions in her field of work in the strongest possible terms.

Sincerely yours,



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