

Prof. Dr. med. Barbara Ludwig  
Phone: +49 351 45818370  
E-mail: Barbara.Ludwig@ukdd.de  
University Hospital Carl Gustav Carus  
Technische Universität Dresden  
Fetscherstraße 74  
01307 Dresden

Dresden, May 18, 2023

Dear Sir or Madam:

It is my pleasure to write this letter of support for Mr. Hany Abdelgawad. After he finished his medical school in Egypt in 2019, Hany started his Ph.D. In my lab in July 2020 as a part of TU Dresden/ King's College dual degree program. Since that time, he has made great advances in the area xenotransplantation research, and has boosted the direction of my laboratory. When he arrived, there was little hope that pseudoislets can be generated from adult and neonatal porcine sources. He has since proven that this daunting task can be achieved. Hany first successfully developed a protocol for pseudoislets formation and significantly improved their viability. Moreover, he managed to increase the amount of pseudoislet that can be generated from one isolation by 3 folds which means decreasing the number of piglets required to be sacrificed. He then demonstrated the functionality and cellular subtypes and location in the newly formed pseudoislets are comparable to the native ones. It is difficult to overestimate the importance of this work. Indeed it represents a *tour de force* in islet xenotransplantation field, and has great significance in advancing the goal of developing a treatment combined with our next generation of macro-encapsulation device for severe cases of diabetic patients. This work has resulted in a patent application and at least two manuscripts now in preparation. Further, Hany has developed into a leader in my laboratory. His work will allow us to explore new areas of research aimed at restoring the natural glycemic control orchestra. I offer him my highest and most unreserved recommendation. I know that Hany is destined to become a leader in the field of diabetes and cell therapy, and I look forward to many years of continued collaboration. I kindly request that he be granted your generous travel grant.



Sincerely,  
Prof. Barbara Ludwig