To Whom it May Concern

Subject: Justification letter from the nominator for sponsoring the nomination

Date: 21-09-2021

India is one of the epicentres of the global DM pandemic. The number of people with DM in India increased from 26·0 million in 1990 which is expected to increase up to 109.0 million by 2035. Prevalence of diabetes increased in both rural and urban India from 2.4% and 3.3% in 1972 to 15.0% and 19.0% respectively in year 2015-2019, hence presently producing a substantial global economic burden on society. DM and its associated microvascular and macrovascular complications account for most of the morbidity and mortality associated with the disease. DM extends far beyond the classic acute metabolic and chronic vascular complications to increased risk of an ever-increasing array of conditions including Alzheimer disease, cancer, liver failure, bone fractures, depression and hearing loss etc. At present there are different families of oral and injectable drugs available for the treatment of DM which includes sulfonylureas, meglitinides, insulin, TZD and alpha-glucosidase inhibitors, GLP1 receptor agonists, DPP4 and SGLT2 inhibitors etc. Prolonged use of which is associated with various side effects, therefore various established polyherbal formulations are considered as an alternative option. Though these available commercial polyherbal formulations are assessed by *in-vivo* studies they lack systematic mechanistic studies which might increase their acceptability.

Ms. Saptadipa Paul is currently working as PhD scholar under my guidance. Presently she is working on mechanistic studies of various commercial polyherbal formulations by *in-vitro* and *in-silico* approaches. These include hypoglycaemic assessment of the extracts by glucose adsorption, decreasing glucose diffusion rate and at the cellular level by promoting glucose transport across yeast cells. Followed by elemental analysis and health risk assessment of all the selected formulations. The formulation with best activity was further evaluated for their phytochemical identification by HPLC-ESI-MS/MS, followed by *in-silico* molecular docking and dynamics studies on important diabetes targets. This might provide an insight of these selected formulations working in synergistic manner in maintaining blood glucose levels and its associated complications. Hence may validate the claims of these formulations scientifically, thereby additionally increasing their global acceptance.

Therefore, with aforementioned study I highly nominate Ms. Saptadipa Paul as she is working on diabetes which has crippled our country as India is presently known as “Diabetic capital”.

Thanks and regards

21/09/2021

(Dr Mala Majumdar)