

Understanding the clinical relevance of C-peptide concentrations in type 1 diabetes highlight notice

To support the development of future research in this area, Diabetes UK welcomes applications for research which seeks to better understand the clinical relevance of C-peptide concentrations in type 1 diabetes, including in different age groups as well as the impact on qualitative factors such as quality of life measures.

Application assessment process

All applications received under this highlight notice will be assessed through the Diabetes UK standard assessment procedure for Project grants and will be considered in competition with all applications submitted.

Applications will be assessed by the scientific panel on following criteria:

- Potential difference the research will make to the lives of people with diabetes.
- Scientific excellence.
- Track record of the applicants.
- Value for money.
- Applications will be assessed by the Grants Advisory Panel on the following criteria:
 - Relevance to people with diabetes and its potential impact.
 - The timescale on which the project could make a difference to people living with diabetes.
 - The extent of involvement of people with diabetes in the development and the management of the study.

Priority Research Question

Sensitive C-peptide assays have revealed that many people with type 1 diabetes have residual circulating C-peptide concentrations but the full clinical relevance of this and its impact on patients' quality of life is incompletely understood. This has been identified by the Diabetes Research Steering Group covering type 1 diabetes, as an under-researched area of strategic importance. The scientific insights that can be gained by investigating

people with residual C-peptide concentrations will inform understanding of the condition itself as well as help intervention strategies to retain circulating C-peptide levels, highlighting the need for research in this area.

To support the development of future research in this area, Diabetes UK welcomes applications for research which seeks to improve our understanding of the clinical relevance of C-peptide concentrations in type 1 diabetes.

Subpopulations of people with type 1 diabetes that may be considered are those with newly diagnosed type 1 diabetes, trials of islet preservation (immunotherapy) and islet replacement (transplant). The call will allow applications using pre-clinical models which specifically would help inform future drug evaluation protocols to improve treatments in humans.

Key examples include, but are not restricted to:

- Measures of islet function that correlate best with clinical benefit (e.g. meal stimulated c-peptide, frequently sampled C-peptide, first-second phase insulin secretion, composite measures including glucagon levels etc),
- How best to identify clinical benefit in trials of beta cell preservation/ replacement in type 1 diabetes and in large epidemiological studies – including patient reported outcome measures (PROMs), Continuous Glucose Monitoring Systems
- Measures of islet cell function that can be frequently sampled/do not require dynamic testing
- Measures of islet cell function in preclinical type 1 diabetes
- Consideration of the most appropriate measures of islet cell function for use in clinical trials and larger epidemiological studies in order to measure clinical benefit
- Assessment of whether islet cell stress impacts on dynamic islet function and clinical benefit beyond standard measures of C-peptide and how can this be measured - e.g. prohormone/hormone ratios
- Identification of other factors which modify and impact clinical benefits of islet cell function e.g. pancreatic exocrine function, insulin resistance, alpha cell function, autonomic neuropathy, site C-peptide secretion (e.g. liver, systemic, portal)
- How we define "cut-offs" /targets for desirable levels of islet cell function defined by clinical parameters e.g. low ketosis risk, low hypoglycaemic risk, low long term complication risk

Applications should specify how their research will lead to better understanding of the clinical relevance of C-peptide concentrations in type 1 diabetes including improved treatment and management or how the study will help to understand clinical outcomes.

Funding

Diabetes UK invites applications in line with our project grant scheme funding.

Deadline

1 June 2022 17:00 hrs (Committee meets in October 2022)

How to apply

[Apply for a Diabetes UK grant through our online portal](#) and select *“Understanding the clinical relevance of C-peptide concentrations in Type 1 diabetes”*

For further details please contact the Diabetes UK Research team at research@diabetes.org.uk