**STATISTICAL ANALYSIS PLAN**

<< INSERT FULL TRIAL TITLE + ACRONYM>>

*A descriptive title that matches the protocol, with SAP either as a forerunner or subtitle, and trial acronym (if applicable);*

# Section 1: Administrative Information

|  |  |
| --- | --- |
| SAP Version: |  |
| Protocol Version: |  |
| Funding Body: |  |
| Sponsor No: | <<If applicable>> |
| Trial Registration No: | <<e.g. *ISRCTN, CT.gov number>>* |
| Ethics Committee Name: |  |
| Ethics Reference No: |  |
| EudraCT No: | <<If applicable>> |

**SAP Amendments:**

|  |  |
| --- | --- |
| **Version and date** | **Description of Changes** |
|  |  |

*SAP revision history; Justification for each SAP revision; Timing of SAP revisions in relation to interim analyses, etc.*

**Roles & Responsibilities:**

*Names, affiliations, and roles of SAP contributors*

**Approved by: <<Additional signatures to be added if required>>**

**Trial Statistician**

|  |  |  |
| --- | --- | --- |
| PRINT NAME: | SIGNATURE: | DATE: |

**Chief Investigator**

|  |  |  |
| --- | --- | --- |
| PRINT NAME: | SIGNATURE: | DATE: |

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# List of Abbreviations

<<Add or remove as appropriate>>

|  |  |
| --- | --- |
| **AE** | Adverse Event |
| **APR** | Annual Progress Reports |
| **CI** | Chief Investigator |
| **CRF** | Case Report Forms |
| **CTA** | Clinical Trial Authorisation |
| **CTIMP** | Clinical Trial of an Investigational Medicinal Product |
| **DMEC** | Data Monitoring and Ethics Committee |
| **DSUR** | Development Safety Update Report |
| **DRG** | Document Review Group |
| **GCP** | Good Clinical Practice |
| **IB** | Investigator Brochure |
| **ISF** | Investigator Site File |
| **MHRA** | Medicines and Healthcare products Regulatory Agency |
| **MP** | Medicinal Product |
| **PI** | Principal Investigator |
| **REC** | Research Ethics Committee |
| **SAE** | Serious Adverse Event |
| **SAR** | Serious Adverse Reaction |
| **SUSAR** | Suspected Unexpected Serious Adverse Reaction |
| **SmPC** | Summary of Product Characteristics |
| **SOP** | Standard Operating Procedure |
| **STU** | Swansea Trials Unit |
| **SU** | Swansea University |
| **TM** | Trial Manager |
| **TMF** | Trial/Project Master File |
| **TMG** | Trial Management Group |
| **TSC** | Trial Steering Committee |

# Section 2: Introduction

* Background and rationale: *Synopsis of trial background and rationale including a brief description of the research question and a brief justification for undertaking the trial*
* Objectives: *Description of specific objectives or hypotheses*

# Section 3: Study Methods

* Trial design: *Brief description of trial design including the type of trial (e.g. parallel group, multiarm, crossover, factorial) and allocation ratio and may include a brief description of interventions*
* Randomisation: *Randomisation details, e.g. whether any minimization or stratification occurred (including stratifying factors used or the location of that information if it is not held within the SAP)*
* Sample size: *Full sample size calculation or reference to sample size calculation in the protocol (instead of replication in SAP)*
* Framework: *Superiority, equivalence, or noninferiority hypothesis testing framework, including which comparisons will be presented on this basis*
* Statistical interim analyses and stopping guidance*: Information on interim analyses specifying what interim analyses will be carried out and listing of time points. Any planned adjustment of the significance level due to interim analysis and details of guidelines for stopping the trial early.*
* Timing of final analysis: *Timing of final analysis, e.g. all outcomes analysed collectively or timing stratified by planned length of follow-up*
* Timing of outcome assessments: *Time points at which the outcomes are measured including visit “windows”*

# Section 4: Statistical Principles

* Confidence intervals and P values: *Level of statistical significance; Description and rationale for any adjustment for multiplicity and, if so, detailing how the type 1 error is to be controlled and Confidence intervals to be reported*
* Adherence and protocol deviations: *Definition of adherence to the intervention and how this is assessed including the extent of exposure; Description of how adherence to the intervention will be presented; Definition of protocol deviations for the trial and Description of which protocol deviations will be summarized*
* Analysis populations: *Definition of analysis populations, e.g. intention to treat, per protocol, complete case, safety*

# Section 5: Trial or Study Population

* Screening data: *Reporting of screening data (if collected) to describe representativeness of the trial sample*
* Eligibility: *Summary of eligibility criteria*
* Recruitment: *Information to be included in the CONSORT flow diagram*
* Withdrawal/follow-up: *Level of withdrawal, e.g. from intervention and/or from follow-up; Timing of withdrawal/lost to follow-up data and Reasons and details of how withdrawal/lost to follow-up data will be presented*
* Baseline participant characteristics: *List of baseline characteristics to be summarized; Details of how baseline characteristics will be descriptively summarized*

# Section 6: Presentation of data for analysis

* Data Export/download: *The statistician and the data manager should work together to download the data (locked by the data manager) from the data base into a format suitable for the standard statistical package.*
* Data Presentation: *The statistician should specify tables summarising formats of data files required for the analysis. These should cover eligibility assessment, description of baseline characteristics, outcomes analysis, and safety data.*

# Section 7: Analysis

* Outcome definitions: *List and describe each primary and secondary outcome including details of the specification of outcomes and timings. If applicable include the order of importance of primary or key secondary end points (e.g. the order in which they will be tested). Specific measurement and units (e.g. glucose control, hbA1c [mmol/mol or %]) and any calculation or transformation used to derive the outcome (e.g. change from baseline, QoL score, time to event, logarithm, etc.)*
* Analysis methods: *what analysis method will be used and how the treatment effects will be presented any adjustment for covariates; methods used for assumptions to be checked for statistical methods; details of alternative methods to be used if distributional assumptions do not hold, e.g. normality, proportional hazards, etc.; any planned sensitivity analyses for each outcome where applicable and any planned subgroup analyses for each outcome including how subgroups are defined*
* Missing data: *Reporting and assumptions/statistical methods to handle missing data (e.g. multiple imputations)*
* Additional analyses: *Details of any additional statistical analyses required, e.g. complier-average causal effect analysis*
* Harms: *Sufficient detail on summarising safety data, e.g. information on the severity, expectedness, and causality; details of how adverse events are coded or categorised; how adverse event data will be analysed, i.e. grade 3/4 only, incidence case analysis, intervention emergent analysis*
* Statistical software: *Details of statistical packages to be used to carry out analyses*

# References:

Gamble, C., et al. (2017). "Guidelines for the Content of Statistical Analysis Plans in Clinical Trials." JAMA 318(23): 2337-2343.