EDA Report

The Experimental Design Assistant (https://eda.nc3rs.org.uk) is an online tool which guides researchers through the design and analysis of in vivo experiments. Information is provided by the researcher to build an EDA diagram – see Annex. Depending on the information inputted specific prompts are triggered by the EDA which provide tailored advice and feedback on the experimental plan.

This report summarises the information provided by the researcher and the feedback from the EDA.

Section 1: Summary

Title of EDA diagram	test1
Date report generated	23/07/2021

Section 2: Information provided by the researcher

1: Objectives

Null hypothesis	fluorescence quenching only happening in epithelial cell
Alternative hypothesis	fluorescence quenching observed in ulmonary parenchyma?liver?heart tissues etc.
Effect of interest	fluorescence quenching of different tissues
Effect size	all or none
Justification for effect size	fluorescence quenching will only happen at which is transfected to by GFP-si

2: Groups and sample size

Total number of animals in the experiment	8
Groups included in the primary analysis	2 groups:
• Group 1	role=test; n=4
• Group 2	role=control/comparator; n=4
Justification for sample size	use EDA power calculation

3: Randomisation and blinding

Experimental unit	animal

There is one step in this experiment where experimental units are allocated to groups:

• Allocation 1

Randomisation strategy	randomisation within blocks
Randomisation procedure	EDA spreadsheet
Allocation concealment	treatments coded for individual animals

There is one step in this experiment where measurements are taken:

• Measurement: fluorescence quenching in tissues

Blinding during result assessment	animals individually coded

There is one analysis in this experiment:

• Analysis 1?Fluorescence intensity of different tissues

Blinding during analysis of the data	groups coded

4: Analysis

Details of the primary analysis (Analysis 1?Fluorescence intensity of different tissues)

Statistical analysis method	unpaired t-test
Factor of interest	Independent variable of interest 1:atomized liposome administration, continuous, with 2 levels (GFP-si minicircle DNA, vehicle)
Blocking factor	Nuisance variable 1:misoperation, categorical, with 1 level (1 times after modeling succeed)
Covariate	NONE

Outcome measures

Outcome measures in the primary analysis	Outcome measure:fluorescence quenching, treated as continuous
Other outcome measures	NONE

5: Characteristics of animals in this experiment

Transgenic fluorescent mice

Species	mouse
Strain	INFORMATION NOT PROVIDED
Sex	INFORMATION NOT PROVIDED
Age	INFORMATION NOT PROVIDED
Weight	INFORMATION NOT PROVIDED

Section 3: Summary of the feedback provided by the EDA

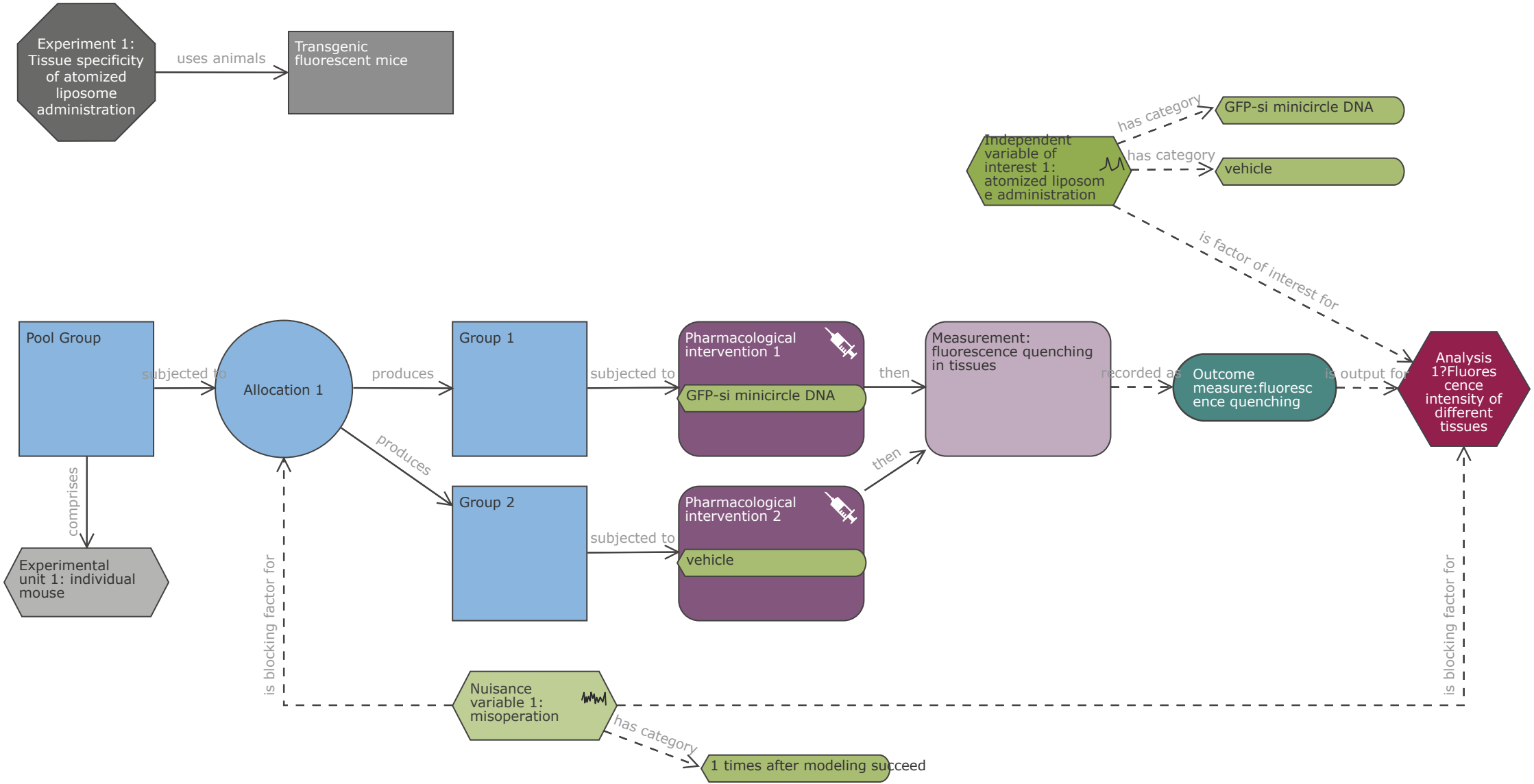
Critique (Table 6) and advice (Table 7) from the EDA is dependent on the quality, including accuracy and completeness, of the information inputted by the researcher. Where the researcher has not addressed issues detected by the EDA, it is important to consider whether this undermines the design of the study.

6: Critique

Total number of issues	0
Issues related to the diagram structure, which might compromise the accuracy of this report	0
Issues related to internal consistency	0
Issues related to missing information	0
Issues suggesting improvements to the design	0

7: Advice for the primary analysis

Suggestion for a method of analysis appropriate for the design	Complex design - multiple factors inc continuous ones


Experiment 1: Tissue specificity of atomized liposome administration
uses animals
Transgenic fluorescent mice
Independent variable of interest 1: atomized liposom e administration
has category
GFP-si minicircle DNA
has category
vehicle
is factor of interest for
Pool Group
subjected to
Allocation 1
produces
Group 1
subjected to
Pharmacological intervention 1
GFP-si minicircle DNA
then
Measurement: fluorescence quenching in tissues
recorded as
Outcome measure:fluoresc ence quenching
is output for
Analysis 1?Fluores cence intensity of different tissues
comprises
Experimental unit 1: individual mouse
produces
Group 2
subjected to
Pharmacological intervention 2
vehicle
then
is blocking factor for
is blocking factor for
Nuisance variable 1: misoperation
has category
1 times after modeling succeed