MANCHESTER 1824
The University of Manchester

ANIMAL WELFARE AND ETHICAL REVIEW BODY

Minutes of the meeting held on 4 July 2019

Present: [redacted]

Apologies: [redacted]

1. Minutes

Agreed: That the minutes of the meeting held on 16 May 2019 were approved.
Noted: The date on the agenda for the current meeting should have been 4 July 2019 and not 16 May 2019.

2. Applications for New Project Licences

2.1. [redacted], Fish Physiology in an Era of Climate Change.

Considered: A completed AWERB form, PPL application, and minutes from Local Management Committee Meeting

Interviewed: [redacted]

Discussed:
- Whilst, *in vitro* work has taken place using cells such as heart cells, in order to study how physiology (e.g cardiac performance) is impacted by climate change this study needs to take place in living fish.
- Whilst most of the approaches used will be non – or minimally invasive some experiments will involve such procedures e.g. in order to obtain a real measure of cardiac output some fish will have a cuff

on the aorta. This will be done in approximately 3% of the catsharks, and not in zebrafish.

Revisions:

- The Project Licence should be carefully checked over for typographical errors.
- P7 of the Project Licence in the cardiovascular section, it may be better to use the term having a 3- ring structure rather than "having three rings"
- P12 of the Project Licence. "xMoroeover" should be corrected.
- P13 of the Project Licence. Tables 1 and 2 were mentioned but were not attached to the licence.
- P13 of the Project Licence. "approximately 6 and 30C" should be changed to "6 to 30"
- P15 of the Project Licence. Step4. Please can you clarify that oxygen is reduced (the word 'reduced' is missing.
- P17 of the Project Licence. Typographical/sentence errors in Zebrafish insturmentation and Time series sections.
- P20 and P22 of the Project Licence. CHRISPR to CRISPR
- P34 of the Project Licence. Last sentence of Environmental Challenge tests. "to recover within 2 hrs".
- P36 of the Project Licence. Protocol 3. First sentence "subjected to a morpholinos" does not make sense? Step 2. Fish may be "anaesthetized". Step 3. Explain "dpf".
- P44 of the Project Licence. "instrument" should be "instrumented".
- The NTS is overall very well written, but there are a couple of points that require some revision:
  - In the adverse effect section, please can you clarify which fish species experience no adverse effects and which experience mild or moderate effects.
  - Please can you be include that the electrodes are implanted.
  - Refinement - please add: Where possible, swabbing will be used in the place of fin clipping and that instrumentation is carried out under general anaesthetic and that the animals are monitored post operatively.
  - The potential benefits to the fish could be expanded upon. Currently it states that the knowledge from the licence will 'improve survival and welfare of fish populations both in wild systems and in aquaculture'.
  - To Note: [redacted] can provide advice on the NTS if required.

Outcome: The study was given provisional approval based on the applicant making the changes/clarifications listed above to the satisfaction of the Chair/AWERB.

2.2. [redacted], Evaluation of Potential for Human Embryos & Embryonic Stem Cells

Considered: A completed AWERB form, PPL application, and minutes from Local Management Committee Meeting

Interviewed: [redacted]

Discussed:

- The use of possible new immunodeficient starins of mouse was discussed, however, it was established that In the applicant's experience, SCID beige mice are the most appropriate animals to use with very good "take" rates of transferred cells, but this would be explored in the future.

Revisions:

- NTS: Under Aim: To understand normal and abnormal human tissue development, there are two typos in the second sentence which need addressing ("We make tissues form human stim cells.")
- NTS: Would benefit from a little more focus and reduction in some of the technical terms that are used where possible.
- Project Licence application, Reduction section
  - Please elaborate further on the variables used to perform the power calculations. E.g. under Embryos (Protocol 1) it is not clear why 5 embryos/group with 5 repeats is necessary – what information i.e. outcome was used to determine these numbers? If historical data is used to inform these calculations, please state.
  - Please can you elaborate on any details of good experimental design used, such as but not limited to, a) are animals randomised to a particular group and how is this done, b) can any assessments be performed blind, such as post-mortem analysis of tissues etc.
- Project Licence application, Refinement section
  - Under Teratoma and Cartilage Repair sections, details of power calculations / sample size calculations should be presented in the Reduction section. The refinement section should address why the animal, model and methods are the most appropriate and refined for the work, and how animal suffering will be minimised.
- Protocol 3 – a small point, athymic rats are not genetically altered they are a natural mutation. This should be checked and corrected.
- Procotol 5 - Please clarify if all offspring will be killed immediately after birth or kept for a period of time and if so the maximum time specified.

Outcome: The study was given provisional approval based on the applicant making the changes/clarifications listed above to the satisfaction of the Chair/AWERB.

2.3. [redacted], Defining Critical Regulatory Pathways Controlling Local & Distal Immune Responses During Health & Inflammation of Barrier Surfaces

Considered: A completed AWERB form, revised PPL application, revised appendices and response to AWERB comments from May 2019 meeting.

Interviewed: [redacted]

Discussed: The Project Licence application has been updated to include the points raised at the previous AWERB meeting.

Outcome: The study was given provisional approval based on the applicant making the changes/clarifications listed above to the satisfaction of the Chair/AWERB.

3. Applications for Amendments to Project Licences

3.1. [redacted], Designing Therapeutic & Diagnostic Nanotechnologies for Medicine

Considered: Amendment summary sheet

Interviewed: [redacted]

Discussed:
- The project is being undertaken in collaboration with surgeons at Salford Royal NHS Foundation Trust.
- The debulking of the tumour will occur exactly as it is carried out in humans.
- The tumours do not metastasize but they can migrate in the brain. If this occurs the primary tumour will be removed as per the clinical technique.
- If tumours regrowth the animals will be monitored for up to 12 months and undergo monthly MRIs.

Conditions of approval:
- All staff who will be performing tumour resection must observe the procedure being carried out in animals prior to performing this procedure themselves.
- Once pilot work has been carried out you must discuss the project with the BSF staff before further work can be undertaken.

Outcome:
- The study has provisional approval based on the conditions of approval outlined below.

3.2. [redacted], The Role of Inflammation in Cerebrovascular Disease

Considered: Amendment summary sheet

Interviewed: [redacted]

Discussed:
- The amendment seeks to add a new model of stroke to an existing project licence.
- The new model is minimally invasive and has the ability to target certain sites, both of which are refinements from the current stroke models in use.
- The new model is also reproducible which would mean a reduction in the number of animals required.
- The animals will be assessed on pellet reaching/gait and through histology after the stroke has been induced.
- The committee is fully supportive of this amendment and the resulting refinements and reduction in animal numbers.

Outcome: AWERB approve the submission of the amendment to the Home Office.

3.3. [redacted], Studies of Cancer Inflammation & Immunity In Vivo ([redacted])

Considered: Amendment summary sheet

Interviewed: [redacted]

Discussed:

- The amendment includes requesting the addition of a fifth protocol with a Severe categorisation given the unexpected deaths that have been observed on the current Moderate protocol.
- The sudden death of animals observed in the current licence could not have been foreseen. Pathology results have shown that the animals which died suddenly had large amounts of tumours within their lungs but other animals with higher tumour volumes have not died. The sudden death may have been caused by respiratory failure.
- The researchers will monitor the animals closely to in order to try to pick up on any signs that an animal is in distress.

Outcome:

- AWERB approve the submission of the amendment to the Home Office.

4. Report on amendments approved from 26/04/2019 to 19/06/2019

The following amendments were approved by the executive committee.

4.1. Amendments to Project Licences

[redacted], Immunopathology of Experimental Malaria Infection.
[redacted] Zebrafish Models of Haemorrhagic Stroke.

4.2. Amendments to Project Licence [redacted]; Generation, Breeding and Maintenance of Genetically Altered Rodents

[redacted], Generation of a TSLP Flox Mouse Model Using CRISPR.
[redacted], Generation of a CaR^{R62A} Mouse Model Using CRISPR.
[redacted], Generation of a Floxed-TSC22D3 Mouse Model Using CRISPR.
[redacted], Generation of a TSC22D3::luciferase Mouse Model Using CRISPR.

5. Matters arising not covered elsewhere in the agenda

5.1. AWERB away day (item 8.1 from May meeting)

Reported: The date been set as 11th October. AWERB members who have yet to confirm attendance should let the Secretary know as soon as possible.

5.2. AWERB application form (item 8.2 from May meeting)

Reported: The named persons comments have been removed from the AWERB form as this is historical from when AWERB members didn't receive the full Project Licence application, and is now not required.

6. Any other business

6.1. AWERB processes

Reported: Preliminary discussions have taken place about how the pipeline for project licence renewals is managed and how we might consider amendments. Ian Roberts will lead a more detailed discussion at the next AWERB meeting.

6.2. New members of staff with existing Project Licences

Discussed: Three new members of staff are starting that have Project Licences at other establishments. It is a requirement of the Home Office that when a licence is transferred to another institution the AWERB at that institution assesses the work. In order to ensure new researchers can continue their work within the BSF without any unnecessary delay, it was proposed that a sub-committee could consider these licences.

Agreed: The transfer of licences to the BSF will be considered by a sub-committee apart from licences that involve severe protocols or studies with animals

The next meeting will be on 12 September 2019 at 10am-12pm, in [redacted].

Dates of meetings for the 2019/2020 academic year are:

14 November 2019, [redacted]

23 January 2020, [redacted]

12 March 2020, [redacted]

14 May 2020, [redacted]

16 July 2020, [redacted]