UNIVERSITY OF CAMBRIDGE
University Biomedical Services

UNIVERSITY OF CAMBRIDGE AWERB REQUEST

Application for non-regulated use of animals in scientific procedures
(To be completed electronically)

Is this a repeat request –No

Name of applicant: Prof. Ewan St. John Smith and PIL holders in EStJS' lab
Applicant's e-mail: es336@cam.ac.uk
Applicant's mobile number: 07506757146
Applicant's qualifications and experience: EStJS has been working with rodents since 2001, other PIL holders in the lab have between 1 and 5+ years of experience, several of which, like EStJS, in the field of pain.
Applicant's professional address (University of Cambridge Department): Department of Pharmacology, University of Cambridge, Tennis Court Road, Cambridge, CB2 1PD
Name of applicant's supervisor (if applicable): N/A
Department in which the animal(s) are to be kept (if applicable) or address of the Place Other than Licensed Establishment (POLE) where the work will be undertaken: Combined Animal Facility
Species, number, sex and strain of animal(s): Mouse, male and female, C57BL/6, young adults, e.g. 6-20 weeks old. Based on prior use ~100 animals/year – we endeavour to use transgenic animals of the "wrong"/wild-type genotype where possible and tissue from animals used under protocols to minimise the number of animals used purely for Sk1 tissue.
The source of the animal(s): Laboratory mice bought and bred under PPL P7EBFC1B1 held by EStJS, including those genotyped as wild-type mice from breeding of transgenic mice, or bought in directly for Sk1 tissue use (e.g. Charles River, Envigo etc.)
Could your work be undertaken using surplus stock animals and if so have you attempted to access surplus stock animals: Yes AND No – both correct **If you have answered 'No', please explain why:** We do not also have sufficient surplus animals from our own colonies of the correct age and thus sometimes have to order in extra animals with the correct age, sex required for our scientific studies. **If you have answered 'Yes', which UBS biofacilities have you approached:** We regularly use surplus stock animals from our own breeding and take advantage of the 3Rs list within the University.
Please give details of accommodation in which the animal(s) will be kept:

Animals will be housed in groups of up to 5 under standard CAF conditions.
Will your animals be individually or group housed (if applicable)? Group housed **If individually, why is this necessary, and how long will your animals be individually housed?** N/A
If applicable, how will your animals be identified? Ear punch
If it is proposed to use animals which are currently under Project Licence authority, please give details (for example, has anything been done to the animals before they are used for this project): Some animals may come from my PPL P7EBFC1B1, including those genotyped as wild-type mice from breeding of transgenic mice, but others would be brought in directly as outlined above.
If animals are to be cared for by individuals other than Animal Technicians employed by the University please give details (*e.g. qualifications and experience*): PIL holders, experience variable as above.
Source, amount and duration of funding for this project. Has your funding been peer reviewed and if so, by whom? Current relevant funding, all peer reviewed:

Dates	Funder	Title	Role	Total Amount	My Amount
01.22 - 12.23	Fondation Wiener Anspach	Role of the epigenetic regulator Prdm12 in pain perception	Smith Co-I / PI, Prof. Eric Bellefroid (Université Libre de Bruxelles)	£25,622	£10,000
10.21– 09.25	AZ PhD studentshp	Neuroimmune interactions in visceral pain	Smith PI / Co-PI Dr David Bulmer	£145,000	£145,000
07.21 - 06-25	MRC/Versus Arthritis	ADVANTAGE (Advanced Discovery of Visceral Analgesics by Neuroimmune Targets And the Genetics of Extreme human phenotypes) Advanced Pain Discovery Platform Consortium	Smith Co-PI	£4,100,000.00	£962,794.00
10.20 - 09.25	iCASE GSK PhD studentship	Non-canonical cytokine signalling of haematopoietic growth factors in nociceptor sensitisation	Smith PI	£134,026.00	£134,026.00
10.19 – 09.23	AZ PhD studentshp	Mechanisms underpinning neuronal sensitisation by synovial fluid	Smith PI	£145,000	£145,000

A "regulated procedure" is defined as any experimental or other scientific procedure applied to a protected animal that may have the effect of causing that animal pain, suffering, distress or lasting harm.

"Pain, suffering, distress and lasting harm" encompass any material disturbance to normal health (defined as the physical, mental and social well-being of the Animal). They include disease, injury and physiological or psychological discomfort, whether immediately (such as at the time of an injection) or in the longer term.

Regulated procedures may be acts of commission (such as dosing or sampling) or of deliberate omission (such as withholding food or water).

Why do you believe this research project does not require Project Licence authority under the Animals (Scientific Procedures) Act 1986. Have discussions with the Home Office inspector taken place (if so, please give details):

Animals will only undergo Sk1 to enable harvesting of tissues.

Please provide the scientific background and context for this request.
We often use sensory neurons, colon, knees, skin and other tissue from mice to understanding the mechanisms by which neurons are activated and how they interact with different cellular systems within the body (as detailed in my PPL). Under such circumstances, it is often important to use tissue from an animal that has not undergone any specific procedure that could alter the biology we are examining. Although various cell lines with neuronal-like properties are available, and are used by our laboratory, none of these fully recapitulates the function of primary neuronal tissue, and hence this request to obtain tissue from mice.

What are the scientific objectives or questions this request aims to address?
The aim of our work is to examine the excitability of neurons and the mechanisms that underpin this, greater detail of our work is detailed in my PPL P7EBFC1B1.

What scientific outputs do you expect, who will benefit and why?
This work will provide information on how the ion channels that regulate neuronal excitability and how these are modified under different culturing conditions, e.g. how does the function of neurons cultured alone differ to that of neurons co-cultured with fibroblast-like synoviocytes? Data will help towards publications that further our understanding of pain and thus potential lead to identification of new therapeutic targets.

If this is a repeat request, please give a summary of what you have achieved under the previous application
N/A

Killing a protected animal for a scientific purpose at a designated establishment does not require a licence if a method listed in Schedule 1 is used. However, if an alternative method is used, the killing is a regulated procedure and requires personal and project licence authority.
Please describe precisely the Schedule 1 method you intend to use and the secondary method which must be taken to ensure the animal is dead. Guidance on the operation of ASPA (Page 125-126)

The cervical dislocation or CO_2 inhalation method of Schedule 1 will be used to kill the animals followed by decapitation/exsanguination to confirm death. Whereas cervical dislocation will be the preferred method, CO_2 inhalation will be used by some researchers, especially when experiments are to be conducted on cervical/thoracic dorsal root ganglia because cervical dislocation can disrupt the spinal cord and compromise efficient cervical/thoracic extraction

Please note that animals not subject to the Animals (Scientific Procedures) Act 1986,

may be subject to the Protection of Animals Act 1911 and Animal Welfare Act 2006. You may be required to produce relevant authorities and or licences.

Expected duration of the project (Please note for projects or requests for materials that extend beyond 12 months a new application will be required every 12 months).
Use of Sk1 tissue will run concomitant with the Project License P7EBFC1B1 (expiry 18.07.23) held by EStJS and the next PPL that is current under review by the Home Office.

In relation to the whole project or sourcing request, please provide the planned start and end date.
Start date: 01.02.23

End date: 18.07.23 (although will continue for full year once new PPL granted, currently with the Home Office for review).

If not humanely killed, what will happen to the animals at the termination of the project?(Any animals housed at a University facility being rehomed or released into the wild must first be examined by an NVS to ensure they are in good health).

N/A

Every possibility should be taken to share excess animals and tissues. If animals or tissues will be obtainable for others to use, please indicate below and explain what will available.

We have a Slack channel in the lab specifically for mice where everyone indicates what they are planning for the week ahead to maximise the use of each mouse, e.g. someone may only want to take dorsal root ganglion neurons meaning that we can take the colon, patellae etc. for other experiments.

Please note that if while working with animals you notice any material change in any of your animals or any unexpected adverse effects that are more than minor and transient you must contact a UBS NACWO, NVS and the Director for Governance and Welfare immediately.

Signature of Applicant: E. St John Smith Date: 23.01.23

Print Name: Ewan St. John Smith

Signature of NACWO: _____ Date: 31.1.23

UNIVERSITY OF CAMBRIDGE
University Biomedical Services

Print Name: _____

Signature of NVS: S. Kimpton Date: 31/1/23

Print Name: SOPHIE KIMPTON

Signature of Chairperson: _____ Date: _____
of the UBS AWERB Committee

Print Name: _____

Please return this completed form to the Named Animal Care and Welfare Officer (NACWO) for your Department who will progress the application through the AWERB Process.

Work can begin when this form is signed and agreed by the NVS and NACWO