UK Research and Innovation

[redacted]

7 July 2026

Dear [redacted]

Freedom of Information request: FOI2026/00406

Thank you for your Freedom of Information request received on the 11 May in which you requested the following:

Your request:

I am writing to request information under the Freedom of Information Act concerning procedures under the Animals (Scientific Procedures) Act 1986.

I understand that the Mary Lyon Centre has/will be providing the MURIDAE Cluster with mouse models of neuropsychiatric disease, including schizophrenia.

My questions are as follows:

1) *Could you please describe how such models of mental disease will be created, both in terms of the method adopted and the protocols involved? (It is, I believe, recognised within the field of psychiatric research that such brain disorders arise through a combination of genetic and environmental influences.)*

2) *What characteristics/phenotype would suggest such a model of neuropsychiatric disorder? Please distinguish between different disorders if the characteristics/phenotypes differ.*

3) *Which early life measures are being referred to in 'Modalities for Understanding, Recording and Integrating Data Across Early life', (https://nmgn.mrc.ukri.org/clusters/muridae/) when it states:*
'as proof of principle, we will first use an existing model that has been previously characterised both as an adult and on a limited number of early-life measures.'

Our response:

I can confirm that UK Research and Innovation (UKRI) does hold information relevant to your request. Please see the information below.

1) *Could you please describe how such models of mental disease will be created, both in terms of the method adopted and the protocols involved? (It is, I believe, recognised within the field of psychiatric research that such brain disorders arise through a combination of genetic and environmental influences.)*

   Mouse strains carrying specific gene variants, identified in human studies, were generated for the studies of the Muridae cluster. Genome editing technologies (CRISPR/Cas9) were used to introduce these changes into the mouse genome. The mouse strains were bred under specific pathogen free (SPF) conditions in accordance with the Animals (Scientific Procedures) Act and phenotyped at appropriate ages.

   Four genetic models were used, but no environmental stressor/external factors were involved.

Details of one of the genetic models, NRXN1 can be found here[1]. Details and descriptions of the remaining models and the methods through which these genetic models were created are being withheld under Section 43 of the FOIA. Further details of this exemption are included below.

2) *What characteristics/phenotype would suggest such a model of neuropsychiatric disorder? Please distinguish between different disorders if the characteristics/phenotypes differ.*

Under the Freedom of Information Act 2000 (FOIA), public authorities are required to provide access to recorded information they hold. The Act applies only to information that already exists at the time of the request and does not require organisations to create new information, nor provide commentary or opinions in response to questions posed. This query is seeking an opinion, rather than recorded information that is held and is therefore out of scope of the FOIA.

However, we can confirm the list of phenotyping assays (tests) that could be used to identify characteristics. These are included at Annex 1.

3) *Which early life measures are being referred to in 'Modalities for Understanding, Recording and Integrating Data Across Early life', (https://nmgn.mrc.ukri.org/clusters/muridae/) when it states:*
'as proof of principle, we will first use an existing model that has been previously characterised both as an adult and on a limited number of early-life measures.'

This was referencing the NRXN1 genetic model. A link to the details of this mutation was included in response to Q1.

Section 43 – Commercial interests

We believe this information falls under the scope of Section 43(2) of the FOIA. This exemption is used where disclosure would likely result in a person's (an individual, a company, the public authority itself or any other legal entities) commercial interests being prejudiced.

This is a qualified exemption, and a test was carried out to determine whether the public interest in maintaining the exemption outweighs public interest in disclosure.

Public interest in favour of disclosure

- There is a general public interest in the disclosure of this information to ensure transparency and openness of a public organisation.
- There is also a public interest in transparency in order to ensure the accountability of public organisations and how they spend public funding.
- The disclosure may help the public better understand how mental disorders are modelled in animals and form informed views on the value of animal research in this area.

Public interest in favour of withholding the information

- The requested information concerns novel genetic mutations derived from human studies, which underpin future scientific publications and valuable research models. Premature disclosure would undermine the novelty, competitiveness and potential for high-impact outputs, weakening the cluster's ability to secure academic recognition and maintain its scientific standing. There is a strong public interest in supporting a robust and internationally competitive UK research base.

[1] https://www.informatics.jax.org/marker/MGI:1096391

- These mutations form the basis of commercially valuable models which may be licensed to external partners. Disclosure at this stage would enable competitors to replicate models without incurring the associated research costs, conferring an unfair advantage, distorting competition and undermining both licensing opportunities and potential future collaborations. There is a clear public interest in protecting the ability of publicly funded organisations to derive value from intellectual assets and reinvest income into further research.

- Controlled disclosure, for example following publication or via licensing agreements, ensures proper validation, attribution and responsible dissemination of findings. Premature release risks disrupting the pathway from discovery to application, thereby reducing the long-term scientific, societal and economic benefits of the research.

- The specific level of detail requested does not materially contribute to public understanding of animal welfare, ethical safeguards, or regulatory compliance, which are addressed through established oversight frameworks and published information. As such, the benefits of additional transparency achieved through disclosure would be limited.

- We also considered the impact on UKRI if commercially sensitive material of partners and collaborators we engage and work closely with were disclosed. We believe it would undermine trust in UKRI's ability to handle confidential information, damaging existing relationships and deterring future collaboration. This would adversely affect UKRI's ability to deliver its role and manage current and future research investments, which is not in the public interest.

Taking the above arguments into consideration, we reached the decision that the need for commercial confidentiality outweighs the public interest in disclosure; therefore the information is exempt from disclosure.

Your rights

If you have any queries regarding our response please do let us know. If you are dissatisfied with the handling of your request, you have the right to ask for an internal review, explaining which elements of this decision you disagree with and why. Internal review requests should be submitted within 40 working days of the date of our response and should be addressed to:

Head of Information Governance
Email: foi@ukri.org

Please quote the reference number above in any future communications.

If you are still not content with the outcome of the internal review, you may apply to refer the matter to the Information Commissioner for a decision. Generally, the ICO cannot make a decision unless you have exhausted the review procedure provided by UKRI. The Information Commissioner can be contacted at: www.ico.org.uk.

If you wish to raise a complaint regarding the service you have received or the conduct of any UKRI staff in relation to your request, please see UKRI's complaints procedure[2].

Yours sincerely,

[redacted]
Information Governance
Information Rights Team
UK Research and Innovation
foi@ukri.org | dataprotection@ukri.org

[2] https://www.ukri.org/who-we-are/contact-us/make-a-complaint/#skipnav-target

Annex 1: Phenotyping Assays

Assay	Description
Developmental milestones recording	A series of observations in neonate mice e.g. body weight, no. of days after birth when eyes first open and number of days after birth that mice respond to an auditory click stimulus.
Passive Home cage Monitoring neonates	Passively monitors the home cage to video record the interaction of the dam with the pups without any interference to the cage. The camera is located outside of the home cage.
Passive home cage monitoring adults	Measures home cage Activity (distance travelled in mm) for individual mice under group housed conditions at a cage level in group housed mice, using spatio-temporal data gathered using RFiD microchips implanted subcutaneously under anaesthesia into adult mice.
Open field test	Measure of activity and exploratory behaviour in a large, well-lit arena where activity is video tracked.
3 Chambers sociability test	The mouse has access to three chambers with a novel mouse in one chamber and social approach is measured.
Startle and Pre-Pulse Inhibition	Measures sensorimotor gating capacity of mice by measuring the changes in the startle response to a series of random auditory stimuli through a platform which can detect small movements.
Touchscreen cognitive testing	This test uses a computer-based task, where subjects learn to distinguish between stimuli to gain a food-based reward. After a period of time, the subject's ability to learn to adapt their behaviour when the reward contingencies are reversed in order to gain the food-based reward is measured.