NHS Lothian Risk Assessment

GUIDANCE NOTES FORM A: Genetically Modified Organisms

DOCUMENT NO.:	**GL004 v1.0**
AUTHOR:	**Heather Charles**
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EFFECTIVE DATE:	**24 MAR 2022**

1 INTRODUCTION

1.1 The Academic & Clinical Central Office for Research & Development (ACCORD) is a joint office comprising clinical research management staff from the University of Edinburgh (UoE) and NHS Lothian (NHSL).

1.2 NHSL and UoE (ACCORD) supports the set up and/or conduct of clinical studies involving advanced therapy (investigational) medicinal products (AT(I)MPs) and gene therapy or genetically modified micro-organisms (GM, GMO).

2 SCOPE

2.1 This document is applicable to all clinical research studies involving a GM(O) to be conducted in NHSL. It applies to the Principal Investigator (PI) of these studies, and to their research teams and should be read in conjunction with Standard Operating Procedure GS012 (Advanced Therapy and Gene Modification Safety committee Approval for Research). GL004 (Form A) applies only to projects involving Genetically Modified Organisms (GMOs). For clinical research studies involving an AT(I)MP, please refer to GL005 (Guidance Notes Form B: AT(I)MPs)

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3 GUIDELINE

Please seek guidance from ATGMS Committee members before completing these forms. It is recommended that the Lead Investigator discuss their project with the Biological Safety Officer or Chair of the ATIMP/GM Safety Committee before completing and submitting these forms.

It is strongly advised that Principal Investigators read and refer to the HSE guidance on GMO work when deciding on general principles and types of control measures, which may be required.

HSE guidance is accessed here: https://www.hse.gov.uk/biosafety/gmo/index.htm.

Guidance from the Scientific Advisory Committee on Genetic Modification is accessed here: The SACGM Compendium of guidance (hse.gov.uk) (Part 6 refers to the use of GMOs in a clinical setting)

The table below mimics the sections of the risk assessment with guidance on what details are required in each section and the recommended documents that this information could be sourced from.

Please note that this is a local form and should not be sent to the sponsor for completion.

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Section	Sub-section		Details Required	Recommended Documents
Section 1: Details of Proposed Research	**1.1 – Study Details**	**Study Reference**	Please use IRAS number as the trial identifier	IRAS Form, Protocol, REC approval
		Study Full Title	Use the complete Study Title	Protocol
		Planned Start Date	Date the recruitment is planned to start	IRAS Form, Protocol
		Planned End Date	Date recruitment is planned to be completed, add follow-up period	IRAS Form, Protocol
		Location(s)	Please identify all rooms/facilities where GMOs will be handled and stored including the name of the trust buildings and campus/site location.	Please list departments and Hospital *(e.g. ICU, Royal Infirmary Edinburgh, Edinburgh Cancer Centre, Western General Hospital)*
	1.2 – Principal Investigator	**Principal Investigator**	Person who will have local responsibility for the work	
	1.3 – Alternative Contact Details	**Alternative Contact Person**	Person who will have responsibility in the absence of the PI/project supervisor	

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Section	Sub-section		Details Required	Recommended Documents
Section 2: Approvals, Consents, Notifications and Licences			Give details of all existing approvals/notifications for this project. This includes all regulatory approvals to open this project.	GTAC Approval, HRA/REC approval (if applicable), MHRA approval. Note that NHS Lothian management approval will not be issued until ATGMSC approval is in place.
Section 3: Lay Summary of the Research			A short summary of the research, its background goals and the justification of the use of GMO/GMMs should be detailed in a manner that may be understood by all reviewers regardless of scientific background. Identify and explain the level of risk posed to human health and the environment. This should include the patient pathway and not exceed 1-2 paragraphs.	Lay Summary from IRAS Form (Section A6-1)
Section 4: Scientific Detail of the Research			Please complete a brief scientific resume of the project in no more than 3 paragraphs	Protocol
Section 5: Details of the ATIMPs / GM Products	**5.1 – 5.5**		Please list all the host organisms (microorganism/cell line), vector (s) including any plasmids and foreign gene inserts that will be used in the project, this should include the source, supplier, or origin. This can be done in generic	Protocol, Investigator's Brochure

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Section	Sub-section		Details Required	Recommended Documents
			terms for commonly used vectors/plasmids. Identify the ACDP hazard group listing (http://www.hse.gov.uk/pubns/misc208.pdf) for parental or wild type organisms if relevant For cell lines give strain/line information as well as species If GMOs/GMMs have been imported into the site information on the construct must be obtained from the supplier.	
Section 6: Risks to Human Health	**6.1 – 6.7**		This section looks at the possible harmful effects /hazards to human health from the pathogenicity, biological effects and toxicity of the host organism, foreign gene insert/product and the attenuation/virulence properties of the vector and the mobility of the plasmids. Therefore, consider host, vector, final GMO/GMM and survivability. Also severity of effects if an accident or exposure was to occur.	Protocol, Investigator's Brochure
Section 7: Risk to the environment	**7.1 – 7.10**		This section considers the possible harmful effects /hazards to the environment (in particular to environmental species that could be affected. What is the likelihood of release/escape of the organism from containment? Consider host, vector, final GMO/GMM, scale and survivability. Also severity/consequences if an accident or release was to occur.	Protocol, Investigator's Brochure

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Section	Sub-section		Details Required	Recommended Documents
Section 8: Final Assignment of GM Class and Containment Level			Assign the GM risk class of the activity. The final risk class is the highest of the risk classes for human risk level / class and for environment risk level / class.	Investigator's Brochure
Section 9: Occupational Health	**9.1 – 9.7**		This section must be completed by the Occupational Health consultant following approval by the committee if the GMO is Class 2 or higher.	This section should be discussed with Occupational Health representative for Class 2 and above. If the GMO is Class 1 please note N/A, but ensure that all precautions are being taken.
Section 10: Arrangements to Control Risk	**10.1 – 10.8**		This section focusses on how the risks associated with the GMO will be controlled. This includes: ▪ Administration to the patient (aerosolisation, shedding), ▪ Patient Care (sample handling, transport of patient), ▪ Patient follow-up (patient death in hospital or at home) ▪ Staff safety (handling, PPE, accidental inoculation) ▪ Waste Management (clinical waste, room cleaning, contaminated materials)	Protocol, study specific SOPs, Lab Manual (for sample processing/analysis/shipment). Please list relevant SOPs relating to each procedure.

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Section	Sub-section		Details Required	Recommended Documents
			▪ Emergency procedures	
Section 11: Accommodation			Please list the rooms where there work will be done and the GMO stored.	Please list the rooms, buildings and locations where GMO is stored, handled and administered and the responsible person.
Section 12: Personnel	**12.1 – 12.3**		Names of personnel involved in the project, at risk from the project, responsible for managing risks of this project	Please list the people who will be at risk from handling or coming into contact with the GMO 12.1 – personnel directly involved 12.2 – staff at risk but not directly involved in the project (i.e cleaning, maintenance, ancillary staff) 12.3 please list any contacts for additional personal (i.e contractors)
Section 13: Pharmacy	**13.1 – 13.7**		This section should be completed with the guidance of a research pharmacist and authorised by a pharmacy member of the ATGMSC. Areas covered are: ▪ Manufacturing details of the products	Investigator's Brochure, pharmacy technical/generic review This section should be discussed and signed off by dedicated pharmacist

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Section	Sub-section		Details Required	Recommended Documents
			▪ Shipment (what is used for shipping, temperature requirements and receipt) ▪ Storage on site (arrangements, location, breakdown mitigations, security) ▪ Preparation/Manipulation of the GMO (handling requirements, trained staff, shelf life, spillages, any transport requirements) ▪ Prescription ▪ Disposal ▪ Risks to staff and public ▪ Adverse Drug Reaction reporting	
Section 14: Declarations and Approvals	**14.1 – 14.5**		Sign off of the risk assessment requires the following signatures and approvals: Signatures: PI, GM committee chair, NHS Lothian BSO, Pharmacy Approvals: HSE Consent (if required)	HSE consent/notification is required for projects categorised as Class 2 and above

Main Committee Contacts:

In the first instance, please contact the Secretary loth.atgmcommittee@nhslothian.scot.nhs.uk:

Secretary: Lisa Wotherspoon

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Committee Chair: Dr Huw Roddie

NHS Lothian Biological Safety Officer(s): Lois Eddie/Rachael MacAngus

Please submit your competed forms along with required documents outlined below to the Secretary of the committee.

Essential Documents for ATGMSC Review (GMO)
Prior to ATGMSC Approval:

- Protocol and Subsequent Amendments
- Investigator Brochure / Drug details
- Research Ethics Committee (REC) application and subsequent amendments (if submitted application is available at the time of review)
- Relevant publications
- Curriculum Vitae (CV) of PI and other relevant Investigators
- Completed ATGMSC Risk Assessment form (either FORM A or B) –PI should check ACCORD website for up to date version
    - GS012-F01 FORM A: Genetically Modified Organisms
- Evidence of GCP training by the study team (as soon as available)
- Evidence of ALS/BLS training (as appropriate)
- Documents submitted to GTAC
- GTAC letter indicating favourable opinion

4 REFERENCES AND RELATED DOCUMENTS

- GS012 Advanced Therapy and Gene Modification Safety committee Approval for Research
- GL005 Guidance Notes Form B: Advanced Therapy Medicinal Products

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- HSE guidance (https://www.hse.gov.uk/biosafety/gmo/index.htm)
- SACGM guidance (https://www.hse.gov.uk/biosafety/gmo/acgm/acgmcomp/index.htm)

5 DOCUMENT HISTORY

Version Number	Effective Date	Reason for Change
1.0	24 MAR 2022	New guideline

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6 APPROVALS

Sign	Date
Heather Charles Heather Charles (Mar 8, 2022 08:53 GMT) AUTHOR: Heather Charles, Head of Research Governance, NHS Lothian, ACCORD	Mar 8, 2022
Fiona McArdle Fiona McArdle (Mar 8, 2022 08:56 GMT) APPROVED: Fiona McArdle, Deputy R&D Director, NHS Lothian, ACCORD	Mar 8, 2022
Gavin Robertson (Mar 8, 2022 08:48 GMT) AUTHORISED: Gavin Robertson, QA Coordinator, NHS Lothian, ACCORD	Mar 8, 2022

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