

NON-TECHNICAL SUMMARY (NTS)

Project Title (max. 50 characters)	Production of antibodies, antisera and blood products																							
Key Words (max. 5 words)	Antibodies, antisera, blood, antigen																							
Expected duration of the project (yrs)	5 years																							
Purpose of the project as in ASPA section 5C(3) (Mark all boxes that apply)	<input checked="" type="checkbox"/>	Basic research																						
	<input checked="" type="checkbox"/>	Translational and applied research																						
	<input checked="" type="checkbox"/>	Regulatory use and routine production																						
	<input type="checkbox"/>	Protection of the natural environment in the interests of the health or welfare of humans or animals																						
	<input type="checkbox"/>	Preservation of species																						
	<input type="checkbox"/>	Higher education or training																						
	<input type="checkbox"/>	Forensic enquiries																						
	<input type="checkbox"/>	Maintenance of colonies of genetically altered animals ¹																						
Describe the objectives of the project (e.g. the scientific unknowns or scientific/clinical needs being addressed)	The supply of specific antisera/antibodies and blood product supporting fundamental and applied research and the development and delivery of human and animal healthcare.																							
What are the potential benefits likely to derive from this project (how science could be advanced or humans or animals could benefit from the project)?	This services provided under this project licence will supply <i>in-vitro</i> diagnostic reagents to laboratories, nationally or internationally and underpins fundamental and applied research for the development and application of new materials in support of human and animal healthcare.																							
What species and approximate numbers of animals do you expect to use over what period of time?	<table> <tr> <td>Cattle</td> <td>200</td> </tr> <tr> <td>Camelids (Llamas and Alpacas)</td> <td>25</td> </tr> <tr> <td>Pigs</td> <td>50</td> </tr> <tr> <td>Sheep</td> <td>75</td> </tr> <tr> <td>Goats</td> <td>30</td> </tr> <tr> <td>Equidae (Horse and donkey)</td> <td>10</td> </tr> <tr> <td>Poultry (Chickens, Layers and Broilers)</td> <td>100</td> </tr> <tr> <td>Rabbits</td> <td>75</td> </tr> <tr> <td>Guinea-pigs</td> <td>25</td> </tr> <tr> <td>Rats</td> <td>225</td> </tr> <tr> <td>Mice</td> <td>225</td> </tr> </table>		Cattle	200	Camelids (Llamas and Alpacas)	25	Pigs	50	Sheep	75	Goats	30	Equidae (Horse and donkey)	10	Poultry (Chickens, Layers and Broilers)	100	Rabbits	75	Guinea-pigs	25	Rats	225	Mice	225
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<p>In the context of what you propose to do to the animals, what are the expected adverse effects and the likely/expected level of severity? What will happen to the animals at the end?</p>	<p>All animals used within this project licence, apart from laying hens when we may need to identify the specific hen that has laid each egg, are housed in a low stress naturalised environment and animals are maintained as members of a social group.</p> <p>For the vast majority of animals, the protocols followed in this licence are minimally invasive and therefore the severity level will be mild and the animals will experience (> 95%) no signs of ill health or malaise.</p> <p>However, there is always the possibility that an animal will experience an adverse reaction and where this happens the animal will be treated to alleviate the symptoms or it may need to be put down.</p> <p>Whenever possible animals will be rehomed after completing a study. On occasions the nature of the study requires that the animal be put down at the end of a study.</p>
<p>Application of the 3Rs</p>	
<p>1. Replacement State why you need to use animals and why you cannot use non-animal alternatives</p>	<p>Alternative methods for antibody production are used whenever possible. There are, however, cases where only the whole animal immune response is adequate to provide suitable materials or information. For example, to model the effect of a potential vaccine: where there is a requirement for a broad-spectrum antibody response or to provide cells for <i>in-vitro</i> selection and antibody production.</p> <p>Wherever possible alternative sources of blood product will be used e.g. collecting samples from animals being put down for food production.</p> <p>Animals used for antibody production are immunised by injection with the material to which a response is sought and subsequently blood samples are taken,</p>
<p>2. Reduction Explain how you will assure the use of minimum numbers of animals</p>	<p>Antisera/antibody production and blood products supply group sizes are based on the study requirements which are normally in the region of millilitres. This volume dictates the minimum number of animals required.</p> <p>However effective management and the use of established procedures/protocols keeps this number to the minimum.</p>
<p>3. Refinement Explain the choice of species and why the animal model(s) you will use are the most refined, having regard to the objectives. Explain the general measures you will take to minimise welfare costs (harms) to the animals.</p>	<p>In the first instance the species selected for antisera/antibody production and blood products supply are the most relevant to scientific and logistical (e.g. sample volume) requirements of the project and within the constraints of the licence. If this can be fulfilled with one or more species e.g. sheep or cattle, then the species chosen will be for its ease of use (blood sampling & dosing) and therefore less stress to the particular animal.</p> <p>Procedures are performed by Personal Licence holders, who have the training, experience in animal handling and frequency of application of techniques necessary to ensure that these are carried out so as to cause minimum stress to the animals.</p>