1. **PEMOHON (PENYELIDIK UTAMA)**

***APPLICANT (LEAD RESEARCHER)***

|  |  |  |
| --- | --- | --- |
| A. | NAMA  *NAME* |  |
| B. | UKM PER  ***ID NO.*** |  |
| C. | FAKULTI/INSTITUT  *FACULTY/INSTITUTE* |  |
| D. | EMEL & NO. TEL BIMBIT  *EMAIL & NO. MOBILE* |  |

1. **PROJEK PENYELIDIKAN**

*RESEARCH PROJECT*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| A. | TAJUK  *TITLE* |  | | |
| B | NO GERAN  *GRANT NO.* |  | | |
| C. | INSTITUSI PEMBIAYA DANA  *FUNDING INSTITUTION* |  | | |
| D. | TEMPOH KAJIAN  *DURATION OF STUDY* | MULA  *START* | (Bulan/*Month*) | (Tahun/*Year*) |
| TAMAT  *END* | (Bulan/*Month*) | (Tahun/*Year*) |

1. **PENYELIDIK BERSAMA DAN KAKITANGAN YANG TERLIBAT (termasuk kakitangan makmal)**

***CO-RESEARCHERS AND STAFFS INVOLVED (including laboratory staffs)***

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| **Bil.**  ***No.*** | **Nama dan Alamat**  ***Name and Address*** | **Kelayakan**  ***Qualification*** | **Jawatan**  ***Position*** | **Telefon & Emel**  ***Telephone &Email*** |
| 1. |  |  |  |  |
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| 3. |  |  |  |  |
| 4. |  |  |  |  |
| 5. |  |  |  |  |
| 6. |  |  |  |  |

1. **PELAJAR**

***STUDENTS***

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| **Bil.**  ***No.*** | **Nama dan Alamat**  ***Name and Address*** | **Program**  ***Program*** | | **Telefon & Emel**  ***Telephone &Email*** |
| 1. |  |  | Prasiswasah  *Undergraduate* |  |
|  | Pascasiswazah  *Postgraduate* |
| 2. |  |  | Prasiswasah  *Undergraduate* |  |
|  | Pascasiswazah  *Postgraduate* |
| 3. |  |  | Prasiswasah  *Undergraduate* |  |
|  | Pascasiswazah  *Postgraduate* |
| 4. |  |  | Prasiswasah  *Undergraduate* |  |
|  | Pascasiswazah  *Postgraduate* |
| 5. |  |  | Prasiswasah  *Undergraduate* |  |
|  | Pascasiswazah  *Postgraduate* |

**BAHAGIAN 1: GAMBARAN MENYELURUH KAJIAN**

***SECTION 1: OVERVIEW OF STUDY***

|  |  |
| --- | --- |
| **1.1** | **Latar belakang ringkas dan kewajaran projek (Tidak melebihi 300 perkataan)**  ***Brief background and justification of study (Not more than 300 words)*** |
|  |  |

|  |  |
| --- | --- |
| **1.2** | **Adakah kajian yang serupa sedang/pernah dijalankan oleh penyelidik atau penyelidik lain?**  *Have similar studies been undertaken by you or others currently /previously?*  **Jika ya, sila berikan butiran di bawah dengan rujukan utama (maksimum 3 penerbitan penuh perlu dikemukakan bersama-sama borang permohonan)**  *If yes, provide the details below with key references (maximum of 3 full publications must be submitted together with the application form)*  **a) Nyatakan hasil kajian sebelum ini.**  *State the findings from previous studies*  **b) Nyatakan elemen baharu dalam kajian ini**  *State the novel elements in the present study*  **Jika tidak,**  *If no,*  **c) Nyatakan kewajaran kajian ini.**  *State the justification of the present study.* |
|  |  |
| **1.3** | **Matlamat kajian (Senaraikan matlamat umum dan khusus)**  ***Study objectives (List general and specific objectives)*** |
|  |  |
| **1.4** | **Hipotesis kajian**  ***Study hypothesis*** |
|  |  |

|  |  |
| --- | --- |
| **1.5** | **Berikan ringkasan rekabentuk kajian menggunakan CARTA ALIR (Sila masukkan kumpulan, spesies, bilangan dan umur haiwan yang digunakan, kaedah, tempoh kajian dan parameter-parameter kajian).**  ***Provide a summary of the study design using a FLOWCHART. (Please include the, study parameters) groupings, species, number and age of animal used, methodology, duration of experiments*** |
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| **1.6** | **Kewajaran penggunaan haiwan.**  ***Justification of using animals*** | | |
|  |  | | |
| **1.7** | **Potensi manfaat kajian.**  ***Potential benefits of study*.** | | |
|  |  | Meningkatkan kefahaman mengenai kesihatan haiwan/manusia  *Increasing understanding of animal / human health* | |
|  |  | *Pengekalan/penambahbaikan kesihatan haiwan/manusia*  *Maintaining / improving animal / human health* | |
|  |  | Penambahbaikan pengurusan haiwan  *Improving animal management* | |
|  |  | Lain-lain (sila nyatakan):  *Others (please specify):* |  |

**BAHAGIAN 2: MAKLUMAT HAIWAN KAJIAN**

***SECTION 2: INFORMATION ON EXPERIMENTAL ANIMALS***

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **2.1** | **Jenis haiwan.**  ***Types of animals.*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | Tikus  *Rats* | | | | | | | | | | | |  | | | Mencit  *Mice* | | | | | | | | | | | | | | | | |  | Hamster  *Hamster* | | | | |
|  |  | Burung  *Birds* | | | | | | | | | | | |  | | | Argus  *Guinea pigs* | | | | | | | | | | | | | | | | |  | Arnab  *Rabbits* | | | | |
|  |  | Biri-biri  *Sheeps* | | | | | | | | | | | |  | | | Kambing  *Goats* | | | | | | | | | | | | | | | | |  | Primat bukan manusia  *Non-human primates* | | | | |
|  |  | Lain-lain (sila nyatakan):  *Others (please specify):* | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | |
| **2.2** | Adakah sebarang permit diperlukan untuk menangkap, mengguna, memusnah atau melepaskan haiwan yang dilindungi atau haiwan transgenik?  Jika ya, sila sertakan dokumen berkenaan.  *Is there any permit that must be obtained for the capture, used, destruction or release of protected or transgenic animals?*  *If yes, please provide the necessary document(s).* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | PERHILITAN/*Wildlife* | | | | | | | |
|  | | | | | | | |
| UKM-IBC/*UKM-IBC* | | | | | | | |
| **2.3** | **Spesies/Strain**  ***Species/Strain*** | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | |
| **2.4** | **Umur/Berat**  ***Age/Weight*** | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | |
| **2.5** | **Bilangan haiwan**  ***Number of animals*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | | | | | | | | | | | | | | Jantan  *Male* | | | | | | | | | | | | | Betina  *Female* | | | | | | | | | Jumlah  *Total* | |
|  | Kumpulan kawalan  *Control group* | | | | | | | | | | | | | | |  | | | | | | | | | | | | |  | | | | | | | | |  | |
|  | Kumpulan kajian  *Tested group* | | | | | | | | | | | | | | |  | | | | | | | | | | | | |  | | | | | | | | |  | |
|  | Jumlah  *Total* | | | | | | | | | | | | | | |  | | | | | | | | | | | | |  | | | | | | | | |  | |
| **2.6** | **Sumber haiwan**  *Source of animals* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | Unit Sumber Haiwan Makmal, Fakulti Perubatan, UKM  *Laboratory Animal Resource Unit, Faculty of Medicine, UKM* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | Institusi tempatan lain (Sila nyatakan)  *Other local institution (Please specify)* | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | |
|  |  | Diimport  *Imported* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | | Syarikat sendiri atau pengimport  *Own or importing company* | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | |
|  |  | | | Negara asal  *Country of origin* | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | |
|  |  | | | Kemudahan biakbaka  *Breeding facility* | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | |
| **SILA SERTAKAN SALINAN SIJIL KESIHATAN DAN PERMIT IMPORT APABILA MENDAPAT KELULUSAN.**  ***PLEASE SUBMIT A COPY OF HEALTH CERTIFICATE AND THE IMPORT PERMIT UPON APPROVAL.*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **2.7** | **Penempatan haiwan**  ***Housing of animals*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | 2.7.1 | | Sangkar  *Caging* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | |  | | | Unit Sumber Haiwan Makmal, Fakulti Perubatan, UKM  *Laboratory Animal Resource Unit, Faculty of Medicine, UKM* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | Jenis  *Type* | | | | |  | | Plastik  *Plastic* | | |  | | Logam  *Metal* | | | | | | |  | | | | | Lain-lain (Nyatakan):  *Others (Specify):* | | | | | | | | | |  | |
|  |  | |  | | | Sumber lain sangkar (Nyatakan)  *Other source of caging (Specify)* | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | |
|  |  | | Jenis  *Type* | | | | |  | | Plastik  *Plastic* | | |  | | Logam  *Metal* | | | | | | |  | | | | | Lain-lain (Nyatakan):  *Others (Specify):* | | | | | | | | | |  | |
|  |  | | Saiz sangkar  *Cage dimension* | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | |
|  | 2.7.2 | | Bilangan haiwan per sangkar  *Number of animals per cage* | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | |
|  | 2.7.3 | | Lokasi  *Location* | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | |
| **2.8** | **Makanan haiwan**  ***Animal feed*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | 2.8.1 | | Sumber makanan  *Source of feed* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | |  | | | Unit Sumber Haiwan Makmal, Fakulti Perubatan, UKM  *Laboratory Animal Resource Unit, Faculty of Medicine, UKM* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | Jenis  *Type* | | | | | |  | | Pelet mencit  *Mouse pellet* | | | | | | | | | | | | | | |  | | | | Pelet arnab and sayur  *Rabbit pellet and veggies* | | | | | | | | | | |
|  |  | |  | | | | | |  | | Pelet monyet and buahan  *Monkey pellet and fruits* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | | |  | | | |  | | | Tempatan  *Local* | | | | | | | | | | | | | | | |  | | | Diimport  *Imported* | | | | | | | | | |
|  |  | | | |  | | | | Nama pengeluar  *Name of manufacturer* | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | |
|  | 2.8.2 | | | | Kekerapan pemberian makanan  *Frequency of feeding* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | | |  | | Sekali sehari  *Once daily* | | | | | | | | | | | | | |  | | | Dua kali seminggu  *Twice weekly* | | | | | | | | | | | | | | | | |
|  |  | | | |  | | Setiap minggu  *Weekly* | | | | | | | | | | | | | |  | | | *Ad libitum*  *Ad libitum* | | | | | | | | | | | | | | | | |
|  | 2.8.3 | | | | Diet khusus diberikan?  *Special diet provided?* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | | |  | | Tidak  *No* | | | | | | | | | | | | | |  | | | Ya (Nyatakan)  *Yes (Specify)* | | | | | | | | | | | | | | | | |
| **2.9** | **Air untuk haiwan**  ***Water for animals*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | 2.9.1 | | | | Sumber  *Source* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | | |  | | Air paip  *Tap water* | | | | | | | | | | | | | |  | | | Air osmosis berbalik (RO)  *Reversed osmosis (RO) water* | | | | | | | | | | | | | | | | |
|  |  | | | |  | | Bertapis  *Filtered* | | | | | | | | | | | | | |  | | | Lain-lain (Nyatakan)  *Others (Specify)* | | | | | | | | | | | |  | | | | |
|  | 2.9.2 | | | | Kekerapan diberi minum  *Frequency of watering* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | | |  | | Sekali sehari  *Once daily* | | | | | | | | | | | | | |  | | | Dua kali seminggu  *Twice weekly* | | | | | | | | | | | | | | | | |
|  |  | | | |  | | Setiap minggu  *Weekly* | | | | | | | | | | | | | |  | | | *Ad libitum*  *Ad libitum* | | | | | | | | | | | | | | | | |
|  | 2.9.3 | | | | Kekerapan menukar botol air  *Frequency of changing water bottle* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | | |  | | Sekali sehari  *Once daily* | | | | | | | | | | |  | | Dua kali seminggu  *Twice weekly* | | | | | | | | | | | | |  | | | Setiap minggu  *Weekly* | | | | |

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| **2.10** | **Jenis alas sangkar**  *Types of bedding* | | | | | | | | | | | | | | | | |
|  |  | Habuk papan terautoklaf  *Autoclaved wood shavings* | | | | | |  | | Habuk papan tak-terautoklaf  *Non-autoclaved wood shavings* | | | | | | | |
|  |  | Surat khabar  *Newspaper* | | | | | |  | | Kertas tisu  *Tissue paper* | | | | | | | |
|  |  | Kertas turas  *Filter paper* | | | | | |  | | Lain-lain (Nyatakan)  *Others (Specify)* | |  | | | | | |
|  | 2.10.1 | | | | Kekerapan menukar alas sangkar  *Frequency of changing bedding* | | | | | | | | | | | | |
|  |  | | | |  | Sekali sehari  *Once daily* | |  | | Dua kali seminggu  *Twice weekly* | | | |  | | Setiap minggu  *Weekly* | |
| **2.11** | **Kekerapan membersih sangkar**  ***Frequency of cleaning cage*** | | | | | | | | | | | | | | | |
|  |  | | | Sekali sehari  *Once daily* | | |  | | Dua kali seminggu  *Twice weekly* | | | |  | | Setiap minggu  *Weekly* | |
| **2.12** | **Kekerapan menukar dulang najis (jika berkaitan)**  ***Frequency of changing litter tray (if applicable)*** | | | | | | | | | | | | | | | |
|  |  | | | Sekali sehari  *Once daily* | | |  | | Dua kali seminggu  *Twice weekly* | | | |  | | Setiap minggu  *Weekly* | |
| **2.13** | **Suhu bilik haiwan**  ***Temperature of animal room*** | | | | | | | | | | | | | | | |
|  |  | | Suhu bilik sekitaran  *Ambient room temperature* | | | | | | | | | | | | | |
|  |  | | Bilik berhawa dingin (Nyatakan suhu)  *Air-conditioned room (State the temperature)* | | | | | | | |  | | | | | |
|  |  | | Lain-lain (Nyatakan)  *Others (Specify)* | | | | | | | |  | | | | | |
| **2.14** | **Kitar pencahayaan dalam bilik haiwan**  ***Lighting cycle in animal room*** | | | | | | | | | | | | | | | |
|  |  | | 12 jam cahaya dan 12 jam gelap  *12 hours light and 12 hours dark* | | | | | | | | | | | | | |
|  |  | | Lain-lain (Nyatakan):  *Others (Specify):* | | | |  | | | | | | | | | |

**BAHAGIAN 3: TATACARA DALAM HAIWAN**

***SECTION 3: PROCEDURES IN ANIMALS***

Sila tandakan [√ ] dalam kotak yang bersesuaian. Biarkan kosong jika tidak berkaitan.

*Please tick [√ ] in the necessary boxes. Leave blank if not applicable.*

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| **3.1** | **Tatacara bukan pembedahan**  ***Non-surgical procedures*** | | | | | | | | | | |
|  | 3.1.1 | Tatacara (Nyatakan dengan terperinci)  *Procedures (Specify in detail)* | | | | | | | | | |
|  |  |  | Suntikan bahan ujian  *Injection of test substance* | | | | | | | | |
|  |  |  | Isipadu bahan ujian  *Volume of test substance* | | | | | |  | | |
|  |  |  | Kekerapan suntikan  *Frequency of injection* | | | | | |  | | |
|  |  |  | Cara suntikan  *Route of injection* | | | | | |  | | |
|  |  |  | Pendarahan haiwan  *Bleeding of animal* | | | | | |  | | |
|  |  |  | Isipadu darah  *Volume of blood* | | | | | |  | | |
|  |  |  | Kekerapan pendarahan  *Frequency of bleeding* | | | | | |  | | |
|  |  |  | Cara pendarahan  *Route of bleeding* | | | | | |  | | |
|  |  |  | Biopsi  *Biopsy* | | | | | |  | | |
|  |  |  | Jenis  *Type* | | | | | |  | | |
|  |  |  | Saiz sampel biopsi  *Size of biopsy sample* | | | | | |  | | |
|  |  |  | Kekerapan  *Frequency* | | | | | |  | | |
|  |  |  | Gavaj oral  *Oral gavage* | | | | | |  | | |
|  |  |  | Isipadu bahan ujian  *Volume of test substance* | | | | | |  | | |
|  |  |  | Saiz jarum gavaj  *Size of gavage needle* | | | | | |  | | |
|  |  |  | Panjang jarum gavaj  *Length of gavage needle* | | | | | |  | | |
|  |  |  | Kekerapan gavaj  *Frequency of gavage* | | | | | |  | | |
|  |  |  | Ubahsuaian tingkahlaku  *Modification of behaviour* | | | | | |  | | |
|  |  |  | Aruhan tumor  *Induction of tumours* | | | | | |  | | |
|  |  |  | Agen/Bahan ujian karsinogenik  *Carcinogenic agent/test substance* | | | | | |  | | |
|  |  |  | Dos  *Dose* | | | | | |  | | |
|  |  |  | Kekerapan  *Frequency* | | | | | |  | | |
|  |  |  | Tempoh  *Duration* | | | | | |  | | |
|  |  |  | Langkah keselamatan (penyelidik)  *Precautions measures (researchers)* | | | | | |  | | |
|  |  |  | Lain-lain (Sila lihat Bahagian 3.4 )  *Others (Please see Section 3.4)* | | | | | |  | | |
|  | 3.1.2 | Kaedah mengekang haiwan (Nyatakan)  *Method of animal restraint (Specify)* | | | | | | | | | |
|  |  |  | Manual  *Manual* | | | | | |  | | |
|  |  |  | Mekanikal  *Mechanical* | | | | | |  | | |
|  |  |  | Kimia  *Chemical* | | | | | |  | | |
|  |  |  | Dadah  *Drug* | | | | |  | | | |
|  |  |  |  | | Dos  *Dose* | | |  | | | |
|  |  |  |  | | Cara administrasi  *Route of administration* | | |  | | | |
|  |  |  | Lain-lain (Nyatakan)  *Others (Specify)* | | | | |  | | | |
|  | 3.1.3 | Kekerapan mengekang haiwan  *Frequency of animal restraint* | | | | | | | | | |
|  |  |  | Setiap jam  *Hourly* | | |  | | | Setiap hari  *Daily* | | |
|  |  |  | Setiap minggu  *Weekly* | | |  | | | Setiap bulan  *Monthly* | | |
|  |  |  | Lain-lain (Nyatakan)  *Others (Specify)* | | |  | | | | | |
|  | 3.1.4 | Kekerapan pemantauan haiwan  *Frequency of animal monitoring* | | | | | | | | | |
|  |  |  | Setiap hari  *Daily* | | |  | | | Selang hari  *Alternate days* | | |
|  |  |  | Lain-lain (Nyatakan)  *Others (Specify)* | | |  | |  | | | |
|  | 3.1.5 | Kaedah pemantauan haiwan  *Method of animal monitoring* | | | | | | | | | |
|  |  |  | Pemerhatian tampakan/klinikal  *Visual/clinical observation* | | | | | | | | |
|  |  |  | Menimbang berat  *Weighing* | | | | | | | | |
|  |  |  | Pemeriksaan fizikal  *Physical examination* | | | | | | | | |
|  |  |  | Lain-lain (Nyatakan)  *Others (Specify)* | | |  | | | | | |
|  | 3.1.6 | Kekerapan pemantauan pasca-tatacara (pembedahan, suntikan intravena dll)  *Frequency of monitoring post-procedure (surgery, intravenous injection etc)* | | | | | | | | | |
|  |  |  | Setiap jam  *Hourly* | | | |  | | | | Setiap hari  *Daily* |
|  |  |  | Lain-lain (Nyatakan)  *Others (Specify)* | | | |  | | | | |
|  | 3.1.7 | Pemantauan pasca-tatacara  *Post-procedure monitoring* | | | | | | | | | |
|  |  |  | Pemerhatian tampakan/klinikal  *Visual/clinical observation* | | | | | | | | |
|  |  |  | Menimbang berat  *Weighing* | | | | | | | | |
|  |  |  | Suhu  *Temperature* | | | | | | | | |
|  |  |  | Pemeriksaan fizikal  *Physical examination* | | | | | | | | |
|  |  |  | Lain-lain (Nyatakan)  *Others (Specify)* | | | |  | | | | |
|  | 3.1.8 | Nasib haiwan yang sakit  *Fate of sick animal* | | | | | | | | | |
|  |  |  | Rawat  *Treat* | | | |  | | | Mematikan  *Sacrifice* | |
|  | 3.1.9 | Jika anda memutuskan untuk merawat haiwan yang sakit, nyatakan kaedah rawatan yang diberikan.  *If you decide to treat a sick animal, describe the method of management/treatment.* | | | | | | | | | |
|  |  | | | | | | | | | | |
|  | 3.1.10 | Jika anda memutuskan untuk mematikan haiwan yang sakit, pilih kaedah perikemanusian yang digunakan.  *If you decide to sacrifice a sick animal, choose a method of humane killing.* | | | | | | | | | |
|  |  |  | Dislokasi tulang servikal  *Cervical dislocation* | | | | | | | | |
|  |  |  | Pemenggalan leher  *Decapitation* | | | | | | | | |
|  |  |  | Kebuk CO2  *CO2 chamber* | | | | | | | | |
|  |  |  | Dos lewah dadah (Nyatakan)  *Drug overdose (Specify)* | | | | | | | | |
|  |  |  |  | Dadah  *Drug* | | | |  | | | |
|  |  |  |  | Dos  *Dose* | | | |  | | | |
|  |  |  |  | Cara administrasi  *Route of administration* | | | |  | | | |
|  |  |  | Lain-lain (Nyatakan)  *Others (Specify)* | | | | |  | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **3.2** | **Tatacara pembedahan**  ***Surgical procedures*** | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | 3.2.1 | | | Kategori  Category | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | |  | | Pembedahan berakhir dengan kematian; haiwan dieutanasia.  *Non-survival surgery; animal euthanised.* | | | | | | | | | | | | | | | | | | | | |
|  |  | | |  | | Pembedahan minor. Tiada penembusan pada kaviti utama badan.  *Minor surgery. No penetration to the main body cavity.* | | | | | | | | | | | | | | | | | | | | |
|  |  | | |  | | Pembedahan major. Terdapat penembusan pada kaviti badan.  *Major surgery. Penetration to a major body cavity.* | | | | | | | | | | | | | | | | | | | | |
|  |  | | |  | | Pembedahan major. Terdapat penembusan pada kaviti badan yang mengakibatkan kemerosotan fizikal dan fungsi.  *Major surgery. Penetration to a major body cavity which results in permanent physical of functional impairment.* | | | | | | | | | | | | | | | | | | | | |
|  | 3.2.2 | | | Terangkan tatacara pembedahan secara terperinci.  *Describe the surgical procedure in detail.* | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | 3.2.3 | | | Lokasi kemudahan pembedahan.  *Location of the surgery facilities.* | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | 3.2.4 | | | Anestesia/Analgesia/Ubat penenang  *Anaesthesia/Analgesia/Tranquilisers* | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | | Agen  *Agent* | | | | | | Dos  *Dose* | | | | | | | | | Cara  *Route* | | | | | Kekerapan  *Frequency* | | |
|  |  | | |  | | | | | |  | | | | | | | | |  | | | | |  | | |
|  |  | | |  | | | | | |  | | | | | | | | |  | | | | |  | | |
|  |  | | |  | | | | | |  | | | | | | | | |  | | | | |  | | |
|  | 3.2.5 | | | Kriteria penilaian anestesia  *Criteria of anaesthesia assessment* | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | |  | | | Kadar respirasi  *Respiratory rate* | | | | | | | | | | | |  | | Kadar denyut jantung  *Heart rate* | | | | | |
|  |  | | |  | | | ECG  *ECG* | | | | | | | | | | | |  | | Picitan jari  *Toe pinch* | | | | | |
|  |  | | |  | | | Picitan ekor  *Tail pinch* | | | | | | | | | | | |  | | Warna membran mukus  *Colour of mucous membrane* | | | | | |
|  |  | | |  | | | Refleks kornea  *Corneal reflex* | | | | | | | | | | | |  | | Relaksasi otot  *Muscular relaxation* | | | | | |
|  |  | | |  | | | Lain-lain (oksimeter denyut, respirator)  *Others (pulse oximeter, respirator)* | | | | | | | | | | | | | | | | | | | |
|  | 3.2.6 | | | Penilaian kesakitan dan ketidakselesaan pasca-pembedahan.  *Assessment of pain and discomfort post-surgical procedures.* | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | |  | | | Hilang selera makan  *Loss of appetite* | | | | | | | | | | | |  | Kemerosotan berat badan  *Loss of weight* | | | | | | |
|  |  | | |  | | | Kegelisahan  *Restlessness* | | | | | | | | | | | |  | Postur rehat tak normal  *Abnormal resting posture* | | | | | | |
|  |  | | |  | | | Menjilat, menggigit, mencakar, menggoyang anggota badan  *Licking, biting, scatching, shaking of body part* | | | | | | | | | | | |  | Gagal menunjukkan sifat ingin tahu  *Failure to show natural inquisitiveness* | | | | | | |
|  |  | | |  | | | Gagal menjaga kekemasan diri  *Failure to groom resulting in unkempt appearance* | | | | | | | | | | | |  | Mengadang (melindungi kawasan sakit)  *Guarding (protecting painful area)* | | | | | | |
|  |  | | |  | | | Hilang daya gerak  *Loss of mobility* | | | | | | | | | | | |  | Kesan merah sekeliling mata tikus  *Red stains around eyes of rats* | | | | | | |
|  |  | | |  | | | Tiada tindak balas  *Unresponsiveness* | | | | | | | | | | | |  | Mencederakan diri sendiri  *Self-mutilation* | | | | | | |
|  |  | | |  | | | Kesukaran bernafas  *Laboured breathing* | | | | | | | | | | | |  |  | | | | | | |
|  |  | | |  | | | Lain-lain (Nyatakan)  *Others (Specify)* | | | | | |  | | | | | | | | | | | | | |
|  | 3.2.7 | | | Terangkan penjagaan pasca-pembedahan.  *Describe post-surgical care.* | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | 3.2.8 | | | Kaedah mematikan haiwan secara perikemanusiaan.  *Method of humane killingof animals.* | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | |  | | Dislokasi tulang servikal  *Cervical dislocation* | | | | | | | | | | | | | | | | | | | | |
|  |  | | |  | | Pemenggalan leher  *Decapitation* | | | | | | | | | | | | | | | | | | | | |
|  |  | | |  | | Kebuk CO2  *CO2 chamber* | | | | | | | | | | | | | | | | | | | | |
|  |  | | |  | | Dos lewah dadah (Nyatakan)  *Drug overdose (Specify)* | | | | | | | | | | | | | | | | | | | | |
|  |  | | |  | |  | | | Dadah  *Drug* | | | | | | | |  | | | | | | | | | |
|  |  | | |  | |  | | | Dos  *Dose* | | | | | | | |  | | | | | | | | | |
|  |  | | |  | |  | | | Cara administrasi  *Route of administration* | | | | | | | |  | | | | | | | | | |
|  |  | | |  | | Lain-lain (Nyatakan)  *Others (Specify)* | | | | | | | | | | |  | | | | | | | | | |
|  | 3.2.9 | | | Terangkan akhiran kajian ini (sekiranya berbeza daripada perancangan awal).  *Describe the end-point of the study (at what instance would you sacrifice the animal, if there is any difference from the original plan)* | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | | | | | | | | | | | | | | | | | | | | | | | | |
| **3.3** | **Penggunaan Bahan Berbahaya (jika berkaitan).**  ***Use of hazardous agents (if applicable).*** | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | 3.3.1 | | | Adakah bahan berbahaya digunakan?  *Is any of the hazardous agents used?* | | | | | | | | | | | | | | | | |  | | Ya  *Yes* | |  | Tidak  *No* |
|  |  | | | Jika Ya, teruskan dengan soalan berikutnya.  *If yes, please proceed to the following questions.* | | | | | | | | | | | | | | | | | | | | | | |
|  | 3.3.2 | | | Jenis bahan berbahaya.  *Types of hazardous agents.* | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | |  | | | Organisma patogen  *Pathogenic organism* | | | | | | | | | | | | | | | | | | | |
|  |  | | |  | | | | Nama patogen  *Name of pathogen* | | | | | | | | | |  | | | | | | | | |
|  |  | | |  | | | Karsinogen kimia  *Chemical carcinogen* | | | | | | | | | | | | | | | | | | | |
|  |  | | |  | | | | Nama karsinogen kimia  *Name of chemical carcinogen* | | | | | | | | | |  | | | | | | | | |
|  |  | | |  | | | | Dos  *Dose* | | | | | | | | | |  | | | | | | | | |
|  |  | | |  | | | | Cara administrasi  *Route of administration* | | | | | | | | | |  | | | | | | | | |
|  |  | | |  | | | | Kekerapan  *Frequency* | | | | | | | | | |  | | | | | | | | |
|  |  | | |  | | | RNA/DNA rekombinan  *Recombinant RNA/DNA* | | | | | | | | | | | | | | | | | | | |
|  |  | | |  | | | Bahan radioaktif  *Radioactive material* | | | | | | | | | | | | | | | | | | | |
|  |  | | |  | | | | Nama  *Name* | | | | | | | | | |  | | | | | | | | |
|  |  | | |  | | | | Dos  *Dose* | | | | | | | | | |  | | | | | | | | |
|  |  | | |  | | | | Hayat simpan  *Shelf-life* | | | | | | | | | |  | | | | | | | | |
|  |  | | |  | | | | Cara administrasi  *Route of administration* | | | | | | | | | |  | | | | | | | | |
|  |  | | |  | | | | Kekerapan  *Frequency* | | | | | | | | | |  | | | | | | | | |
|  | 3.3.3 | | | Terangkan bagaimana bahan berbahaya digunakan (Sila gunakan kertas berasingan).  *Describe how the hazardous agents are utilized (Please write in separate sheet).* | | | | | | | | | | | | | | | | | | | | | | |
|  | 3.3.4 | | | Terangkan tatacara pembendungan biokeselamatan (Sila gunakan kertas berasingan).  *Describe the biosecurity containment procedures (Please write in separate sheet).* | | | | | | | | | | | | | | | | | | | | | | |
|  | 3.3.5 | | | Terangkan bagaimana pelupusan sisa dan haiwan dilakukan (Sila gunakan kertas berasingan).  *Describe the disposal of the used animals and waste (Please write in separate sheet).* | | | | | | | | | | | | | | | | | | | | | | |
| **3.4** | Untuk penggunaan bahan toksik atau organisma patogen surat kelulusan Jawatankuasa Keinstitusian Biokeselematan UKM atau mana-mana pihak bertanggungjawab mesti dikemukakan.  *On the use of toxic materials as well as pathogenic organism, an approval letter from the UKM Institutional Biosafety Committee or any responsibility agency must be provided.* | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | Dikemukakan  *Attached* | | | | | | | | | |  | | | Tidak berkenaan  *Not applicable* | | | | | | | | | | | |
| **3.5** | **Jenis lain eksperimen (jika berkaitan).**  ***Other types of experiments (if applicable).*** | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | Bahan/peranti implan  *Implanted devices/material* | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | | | Saiz implan  *Size of implant* | | | | | | | | | | |  | | | | | | | | | | |
|  |  | | | | Lokasi implan peranti  *Location of implanted devices* | | | | | | | | | | |  | | | | | | | | | | |
|  |  | | | | Tempoh  *Duration* | | | | | | | | | | |  | | | | | | | | | | |
|  |  | | Paralisis saraf-otot  *Neuromuscular paralysis* | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | | | Lokasi  *Location* | | | | | | | | | | |  | | | | | | | | | | |
|  |  | | | | Kaedah  *Method* | | | | | | | | | | |  | | | | | | | | | | |
|  |  | | | | Tempoh  *Duration* | | | | | | | | | | |  | | | | | | | | | | |
|  |  | | Imobilisasi-elektro  *Electro-immobilisation* | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | | | Jenis instrumen  *Type of instrument* | | | | | | | | | | |  | | | | | | | | | | |
|  |  | | | | Tempoh  *Duration* | | | | | | | | | | |  | | | | | | | | | | |
|  |  | | | | Saiz voltan  *Voltage size* | | | | | | | | | | |  | | | | | | | | | | |
|  |  | | Ujikaji toksikologi  *Toxicology experiment* | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | | Senaraikan sebatian dalam kertas yang berasingan sekiranya anda menggunakan lebih dari satu sebatian. Terangkan sumber, kepekatan, dll. secara terperinci. Sila penuhkan Bahagian 3.3.  *List the compound in a separate sheet if the compound is more than one. Describe in detail, source, concentration and etc.* *Fill up Section 3.3I.* | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | Ujikaji menggunakan janin/embrio (Sila terangkan dalam kertas yang berasingan).  *Foetal/Embryo experimentation (Please describe in a separate sheet).* | | | | | | | | | | | | | | | | | | | | | | | |
| **3.6** | **Pengalaman dan kompetensi dalam tatacara pengendalian haiwan.**  ***Experience and competency in handling animal procedures.*** | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | 3.6.1 | | | Adakah anda berpengalaman dalam mengendalikan haiwan kajian?  *Have you had any experience in handling the animal?* | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | |  | | | Ya (Sila berikan bukti)  *Yes (Please provide an evidence)* | | | | | | | | | | | | | | |  | Tidak  *No* | | | |
|  | 3.6.2 | | | Adakah anda mempunyai kakitangan yang kompeten dalam pengendalian haiwan?  *Do you have competent staff in handling the animal?* | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | |  | | | Ya  *Yes* | | | |  | | | Tidak  *No* | | | | | | | | | | | | |
| **3.7** | **Tatacara pilihan.**  ***Alternative procedure.*** | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | 3.7.1 | | | Adakah tatacara pilihan telah dikenalpasti?  *Has alternatives to the procedures to the animals been searched for?* | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | |  | | | Ya  *Yes* | | | |  | | | Tidak  *No* | | | | | | | | | | | | |
|  | 3.7.2 | | | Jika ya, sila sertakan bukti yang menyokong pernyataan anda (laman sesawang, jurnal, dll.)  *If yes, please provide evidence/reference to support your claim. (websites, journals etc*) | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | | | | | | | | | | | | | | | | | | | | | | | | |

**BAHAGIAN 4: PENGELASAN PROJEK DAN KELULUSAN**

***SECTION 4: PROJECT CLASSIFICATION AND APPROVAL***

|  |  |  |  |
| --- | --- | --- | --- |
| **4.1** | **Pengelasan Projek**  ***Project Classification*** | | |
|  |  | A | Tatacara dijalankan di bawah pengaruh anastesia dan haiwan dimatikan.  *Those procedures carried out under anAesthesia and the animal killed without regaining consciousness.* |
|  |  | B | Projek biakbaka.  *Breeding projects.* |
|  |  | C | Projek yang memerlukan haiwan dimatikan untuk pengambilan seluruh karkas haiwan atau sebahagian tisu selepas ujikaji dijalankan.  *Projects requiring animals to be killed for the preparation of whole animal carcass or tissue specimens with prior experimentation.* |
| **4.2** | **Pengesahan veterinawan bertugas**  ***Verification of attending veterinarian***  Tandatangan/***Signature*:**  Cop/***Stamp*:**  Nombor APC/***APC number*:**  (Sangat digalakkan*/****Highly recommended***) | | |

**BAHAGIAN 5: PERAKUAN DAN KELULUSAN**

***SECTION 5: ENDORSEMENT AND APPROVAL***

|  |  |  |
| --- | --- | --- |
| **5.1** | **PERAKUAN PENYELIDIK/PEMOHON**  ***RESEARCHER/APPLICANT ENDORSEMENT*** | |
|  | ........................................................  Tandatangan & Cop Ketua Penyelidik  *Signature & Stamp of Lead Researcher* | ………………………………………...........  Tarikh  *Date* |
| **5.2** | **PERAKUAN KETUA JABATAN**  ***HEAD OF DEPARTMENT ENDORSEMENT*** | |
|  | .........................................................  Tandatangan & Cop Ketua Jabatan  *Signature & Stamp of Head of Department* | ………………………………………...........  Tarikh  *Date* |

|  |  |  |
| --- | --- | --- |
| **5.3** | **KEPUTUSAN JAWATANKUASA ETIKA HAIWAN UKM (UKMAEC)**  ***DECISION OF UKM ANIMAL ETHICS COMMITTEE (UKMAEC)***  …………………………………………………………………………………………………………………………………………........  …………………………………………………………………………………………………………………………………………......  …………………………………………………………………………………………………………………………………………......  …………………………………………………………………………………………………………………………………………......  …………………………………………………………………………………………………………………………………………...... | |
| **5.4** | **NO. KOD KELULUSAN**  ***NO. APPROVAL CODE*** | |
|  |  | |
|  | .........................................................  Tandatangan & Cop Sekretariat UKMAEC  *Signature & Stamp of UKMAEC Secretariat* | ………………………………………...........  Tarikh  *Date* |
|  | .........................................................  Tandatangan & Cop Pengerusi UKMAEC  *Signature & Stamp of UKMAEC Chairperson* | ………………………………………...........  Tarikh  *Date* |