**Contract 77329 – Table 1: Quantitative assessment of biomaterial from rats of both genders to study 239Pu dynamics (D) and late effects (LE) at different delivery routes and minimization of damage**

|  |  |  |  |
| --- | --- | --- | --- |
| Group | Different exposure factors | Number of rats, ♂ | cells of biomaterial storage |
| Ionizing radiation (IR) | Other factors | Used in test,Lp | Transferred from L-0 toL-2 | Samples(paraffin) |  |
| type | source | Delivery route | Dose approach | Administered amount | dose1,Gy | Characteristics |
| 1 LEtest (4)\*, ♂ | α | 239Pu, IV, nitrate, рН 1CMD-1 μm | inhalation | single | 2.2-3.0 kBq | 3.4÷9.1 | СаDTPAZnDTPA (2)treatment | 365 (4) | 338 | 6464 | 46-52 |
| 2 LEtest (12)control (4)♂,♀ | α | 239Pu, IV, нитрат, рН 1нитрат-полимер, рН 6;tributyl phosphate in hexachlorobutadiene | puncture(muscle) | single | 92.5 kBq/kg | 68÷280 | none | 268 (6) | 265 | 5845 | 1-30 |
| 75÷273 | СаDTPAtreatment | 263 (6) | 262 | 5894 |
| none | none | none | none | none | none | solution HNO3рН 1; hexachlorobutadiene single, intramuscular | 133 (4) | 132 | 3214 |
| 3 LEtest (4)♂ | α | 239Pu, IV, nitrate, рН 1 | scratch(2 - 1 сm2) | single | 40 and 164kBq /cm2 | 1.4÷36 | wound dressing | 142 (2) | 137 | 3223 | 31-36 |
| 164 and 722kBq/cm2 | 1.4÷36 | wound dressing +СаDTPAtreatment | 141 (2) | 141 | 3678 |
| 4 LEtest (8), ♂ | α | 239Pu, IV, citrate, рН 6.5, | intra peritonial | single | 92.5 kBq/kg |  | No dressing | 779 (8) | 616 | 14964 | 37-44 |
| Ca-,Zn-, CoDTPAtreatment |
| 5 Dtest (4), ♂ | α | 239Pu, IV, nitrate, рН 1nitrate-polymer | puncture(muscle) | single | 103.6 kBq/kg |  | 7 sacrifices dates up to 512 days | 90 (4) | 90 | 491 | 51 |
| 6test (11)♂ | α | 239Pu, IV, citrate, рН 6.5, | intravenous | single | 92.5 kBq/kg |  | treatment СаDTPA (9)none (2) | 44 (11) | 44 | 133 | 52 |

note: \* ‑ in parentheses – number of test groups;

1 – dose in main deposition: lungs through inhalation; muscles through puncture; skin through scratch

 **Contract 77329 Table 2: Layout for paraffin biomaterial from rats used to study LE and D\***

 **FSUE SUBI, bld 3, floor 2, room. № 256, locker 1**

|  |  |
| --- | --- |
| **Row** | **Shelf number** |
| **1** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** |
| intramuscularcage № 1-4, ♀controlHNO3 | intramuscularcage№ 23-25,♂controlHNO3 | intramuscularcage № 5-7, ♀239Pu nitrate+treatment | intramuscularcage№ 8-10, ♀239Pu nitrate+treatment | intramuscularcage № 11-13, ♀239Pu nitrate | intramuscularcage № 14-16, ♀239Pu nitrate | intramuscularcage № 17-19, ♂239Pu nitrate+treatment | intramuscularcage № 20-22, ♂239Pu nitrate+treatment | intramuscularcage № 26-28, ♂239Pu nitrate |
| **2** | **10** | **11** | **12** | **13** | **14** | **15** | **16** | **17** | **18** |
| intramuscularcage № 29-31,♂239Pu nitrate | intramuscularcage№ 32-34, ♂239Pu citrate-polymer+treatment | intramuscularcage№ 35-37, ♂239Pu citrate-polymer+treatment | intramuscularcage№ 38-40, ♂239Pu citrate-polymer | intramuscularcage№ 41-43, ♂239Pu citrate-polymer | intramuscularcage№ 44-46, ♀239Pu citrate-polymer+treatment | intramuscularcage № 47-49. ♀239Pu citrate-polymer+treatment | intramuscularcage № 50-52, ♀239Pu citrate-polymer | intramuscularcage № 53-55, ♀239Pu citrate-polymer |
| **3** | **19** | **20** | **21** | **22** | **23** | **24** | **25** | **26** | **27** |
| intramuscularcage№56-58,♀239Pu nitratein GHBD and TBP +treatment | intramuscularcage№ 59-61, ♀239Pu nitratein GHBD and TBP +treatment | intramuscularcage№ 62-64, ♀239Pu nitratein GHBD and TBP | intramuscularcage№ 65-67,♀239Pu nitratein GHBD and TBP | intramuscularcage№ 68-70, ♂239Pu nitratein GHBD and TBP +treatment | intramuscularcage№ 71-73, ♂239Pu nitratein GHBD and TBP +treatment  | intramuscularcage№ 74-76, ♂239Pu nitratein GHBD and TBP | intramuscularcage№ 77-79, ♂239Pu nitratein GHBD and TBP | intramuscularcage№ 80-82, ♀ GHBD control |
| **4** | **28** | **29** | **30** | **31** | **32** | **33** | **34** | **35** | **36** |
| intramuscularcage№ 83-86,♀ GHBD control | intramuscularcage№ 87-89, ♂ GHBD control | intramuscularcage№ 90-93, ♂ GHBD control | grazes | grazes | grazes | grazes | grazes | grazes |
| cage94-96, ♂О+Л1 | cage97-99,♂О2 | cage100-102,♂О+Л1 | cage103-105,♂О2 | cage106-110,♂О+Л1 | cage111-115,♂О2 | cage116-120,♂О+Л1 | cage121-123,♂О2 | cage124-126,♂О+Л1 | cage127-129,♂О2 | cage130-132,♂О+Л1 | cage133-135,♂О2 |
| **5** | **37** | **38** | **39** | **40** | **41** | **42** | **43** | **44** | **45** |
| peritoneal239Pu citratecontrolcage11-13, ♂set I | peritoneal239Pu citrate+ treatmentcage14-25, ♂set II | peritoneal239Pu citrate+ treatmentcage26-38, ♂set III | peritoneal239Pu citrate+ treatmentcage39-51, ♂set IV | peritoneal239Pu citrate+ treatmentcage53-64, ♂set VII | peritoneal239Pu citrate+ treatmentcage65-78, ♂setVI | peritoneal239Pu citrate+ treatmentcage79-92, ♂set VIII | peritoneal239Pu citrate+ treatmentcage93-106, ♂set IX |  |
| **6** | **46** | **47** | **48** | **49** | **50** | **51** | **52** | **53** | **54** |
| inhalation239Pu nitrate+treatmentcage85,86,88,89,91,95,96, 97, ♂set Х | inhalation239Pu nitratecage87,90,92,93,94,98,99, 100, ♂set Х | inhalation239Pu nitrate+treatmentcage101,103,104,106,107,109,111,113, ♂set ХI | inhalation239Pu nitratecage102,105,108,110,112,114,115,116,♂set ХI | intramusculardynamics1h-512 day239Pu nitratewith treatmentand withouttreatment, ♂ | intramusculardynamics1h-512 day239Pu citrate-polymerwith treatmentand without treatment, ♂ | intravenousnewcomplexes500μМ/kg/daykilling 3 day♂ |  |  |
| Note: \* ‑ RLA – Remote Lesion After effects; LD – Lesion Dynamics; 1 – treatment of grazes+СаDTPA; 2 – treatment of grazes |