**CONTRACT 93302 (Internal SUBI number for reference purposes)**

**Peculiarities of energy Pu biological effect depending on age.**

Performance period: 1993-1996

**Publications**

Scientific research report (final). Principal investigator E.R. Lubchansky, principal executive Z.I. Каlmykova, Т.I. Levdik, ex. О.V. Kuzmenko et al. – FIB-1,1996. – Inv.no 2248. – 37 p., 21 tables, 2 fig., 4 references. Contract materials were sources for 7 papers, of them 1 published.

**Background**

The information was gathered from 787 female Wistar rats that were used in SUBI’s experiment no. 93302. The collection and collation of the information was done as part of Task 2.3 (“Evaluation of the SUBI tissue archive and database as a potential part of the European archive”) of the previous EURATOM-funded project STORE (Sustaining access to Tissues and data frOm Radiobiological Experiments; contract number 23228), which was coordinated by BfS, Germany (see <http://cordis.europa.eu/project/rcn/89386_en.html>) .

The information given here is based upon SUBI’s 18 months and 42 months reports.

It has been shown in the STORE project, that the biological material from the experiments conducted by SUBI can still be used. The respective Standard Operating Procedures are available on the STORE website (<http://www.storedb.org/store_v3/documents.jsp> ).

**The study**

The aim of the study was to determine late effects of single inhalation of different amounts of civil (energy) Pu citrate (3 levels) in female rats of different age groups (pubertal – 10.5 weeks, young – 6.5 weeks, infant rats - 3.5 weeks).

**Results**

We found:

- lagged compared to adult rats dose load formation;

- increase and intensification of hematological shifts in young animals;

- reduction of lifespan of weanlings;

- compared to adult animals risk of deterministic hematological effects development per unit of dose is 4-6 times higher in young age; risk of lifespan reduction for early infant age – 2 times higher;

- estimate of blastomogenic effects in animals died naturally has not been finished for more 175 animals.

787 rats were used in the experiment. Biomaterial could be identified for 610 animals, either paraffin-fixed (435) and in formalin (175). The amount of available paraffin-fixed biomaterial from 435 rats used in 18 individual tests is given in Table 1. Its location in the storage facility is shown in Table 2 (for both see STOREDB:FILE 11324).

**Contact information**

If you want to use the material or have any detailed questions regarding the study you should contact SUBI through inter\_dep@subi.su. If you have any questions regarding this short summary report, please contact Dr. Bernd Grosche (bgrosche@t-online.de).