

Indira Gandhi Centre for Atomic Research
Safety, Quality & Resource Management Group

Collaborative Study: Effect of natural radiation on blood lymphocytes in non-human biota of High background radiation area of Tamil Nadu.

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Closing Date: 30/08/2024

Title: Expression of Interest for Collaborative project “Effect of natural radiation on blood lymphocytes in non-human biota of High background radiation area of Tamil Nadu”.

Theme: Natural radiation is a part of the universe and has existed since the beginning of creation. In the present scenario some areas of the world, called high background radiation areas (HBRAs), have unusually high levels of background radiation. In India, there are many uraniferous and monazite rich deposits, which forms the base of HBRAs in some regions. Manavalakurichi region along the southwest coast of India in Tamil Nadu is reportedly has high background radiation pockets. Though considerable investigations have been carried out in HBRAs, studies on Biological effect of radiation on non-human biota of HBRAs of Tamil Nadu are scanty. Moreover, in recent past ICRP, UNCEAR, etc. have emphasized effect of radiation on non-human biota.

The present study aims to study the effect of radiation on non-human biota of HBRAs of Tamil Nadu coastal region. The study will mostly focus on analysis of the radiation effect on blood lymphocytes of animals *via* comet assay, telomere length assay, gene expression studies, etc. and will compare the findings with similar samples from nearby normal background radiation areas.

Scope of the Project: Study the effect of natural background radiation on non-human biota of High background radiation areas of Tamil Nadu. This includes the following:

- Provide data on effect of LDIR on non-human biota in HBRA of Tamil Nadu coast
- Dosimetry study on ICRP reference animals from tropical regions in general of India in particular
- Will provide comparative data on expression of dosimetric biomarkers in non- human biota in HBRAs and NBRAs

Expected Expertise: Academic / Research Institutes with facilities and expertise in field of Life science, molecular biology, Radiation biology with experience of working in high background radiation areas.

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