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### Dosimetric properties of a novel radiochromic gel composed of polyvinyl alcohol, iodide, and silica nanoparticles (PAISiN)

Welti Sophia

Radiochromic gel materials are of special interest for applications in three-dimensional dosimetry, particularly in the clinical settings of radiation therapy, in addition to possible uses in personal and environmental monitoring. Currently, we have been developing a novel gel material composed of polyvinyl alcohol, potassium iodide, and silica nanoparticles (called “ PAISiN” hereafter). The obtained results show a high potential for use in on-site monitoring of local exposure of workers’ hand/fingers. These qualities include immediate and clearly visible color changes when exposed to radiation, proportional to radiation exposure, reusability, portability, and dose-rate independence in coloration. This last quality is important, but yet to be confirmed, to ensure that the gel can be used to accurately determine radiation doses in any exposure situation. In this presentation, we introduce the basic properties of PAISiN, such as dose response, reusability, long-term stability, applicable dose range, and preferable storage conditions.

LRP12 CGG

ALS

C9orf72

ALS

1

OPDM

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5

2

LRP12

CGG

ALS

LRP12-ALS

61-100

OPDM

LRP12-OPDM

100-200

LRP12-ALS

iPS

iPSMNs

TDP-43

RNA foci

LRP12-OPDM

Muscleblind-like 1

OPDM

LRP12 CGG

ALS

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