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(54) **Title:** USE OF PEPTIDES FOR THE CONTROL OF RADIATION INJURY

(57) **Abstract:** The invention relates to the field of drug development against acute radiation injury caused by exposure to high-energy electromagnetic waves (X-rays, gamma rays) or particles (alpha particles, beta particles, neutrons). To date, there is no effective drug to ameliorate radiation injury after accidental exposure to ionizing irradiation. The invention provides a method of treating radiation injury of a subject in need thereof comprising administering to the subject a peptide, or functional analogue or derivative thereof, of smaller than 30 amino acids. Furthermore, the invention provides use of a peptide, or functional analogue or derivative thereof, of smaller than 30 amino acids for the production of a pharmaceutical composition for the treatment of a subject suffering from or believed to be suffering from radiation injury. In particular, the invention provides anti-radiation peptides having a dose reduction factor (DRF) against acute gamma irradiation of at least 1.10, said DRF determinable by testing which dose of radiation results in 50% mortality at 30 days (LD50/30) after whole body radiation (WBI) in a test group of mice treated with said peptide at 72 hours after WBI and, testing which dose of radiation results in 50% mortality at 30 days (LD50/30) after whole body radiation (WBI) in a control group of mice treated only with the vehicle of said peptide at 72 hours after WBI and wherein the DRF is calculated by dividing the LD5O/3O of the peptide-treated animals by the LD50/30 of the vehicle-treated animals.

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