ABSTRACT

The effect of radaiiation in on the intestine has been studied for a long time. There are still unclear issues about that whether this organ has defensive mechanisms against ionising ionizing radiation (IR). Here, by using *Caenorhabditis elegans*, we describe the silencing of an intestine--expressed, a mucin-like genes, *F49F1.6* (termed *Ce-mul-1*), which showed growth retardation after IR irradiation. Induction of *mul-1* genes to by ionizing radiation was highly dependent on ELT-2 transcription factor and p38 MAPK. Moreover, the insulin/IGF-1 signal pathways works as an enhancer of this gene induction. The *mul-1* gene induced a different pattern from the DNA damage response gene, *ced-13,* which implies that this gene expression might be triggered by the indirect effect of radiation. We also focused on radiaaition-induced *clec-4*, *clec-67*, *lys-1* and *lys-2*, which areis innate immune response genes. Finally, we describe the cross-talk response to radiation and innate immune response in at the level of gene expression level.