

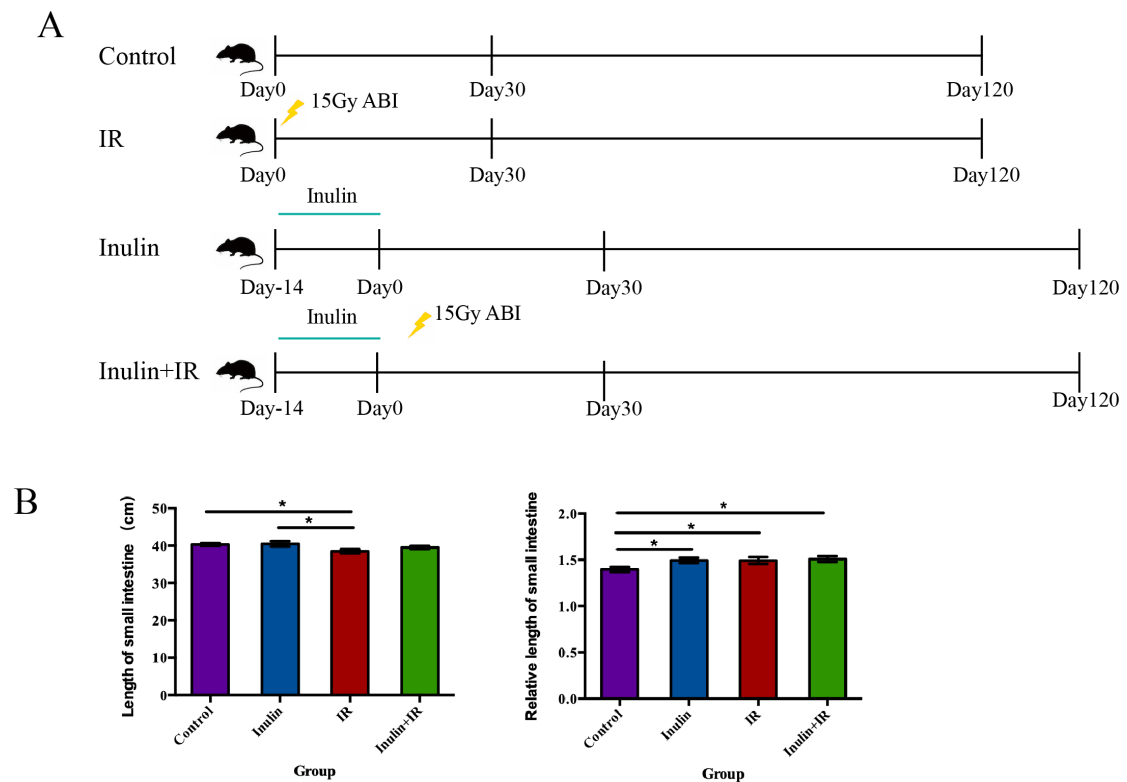
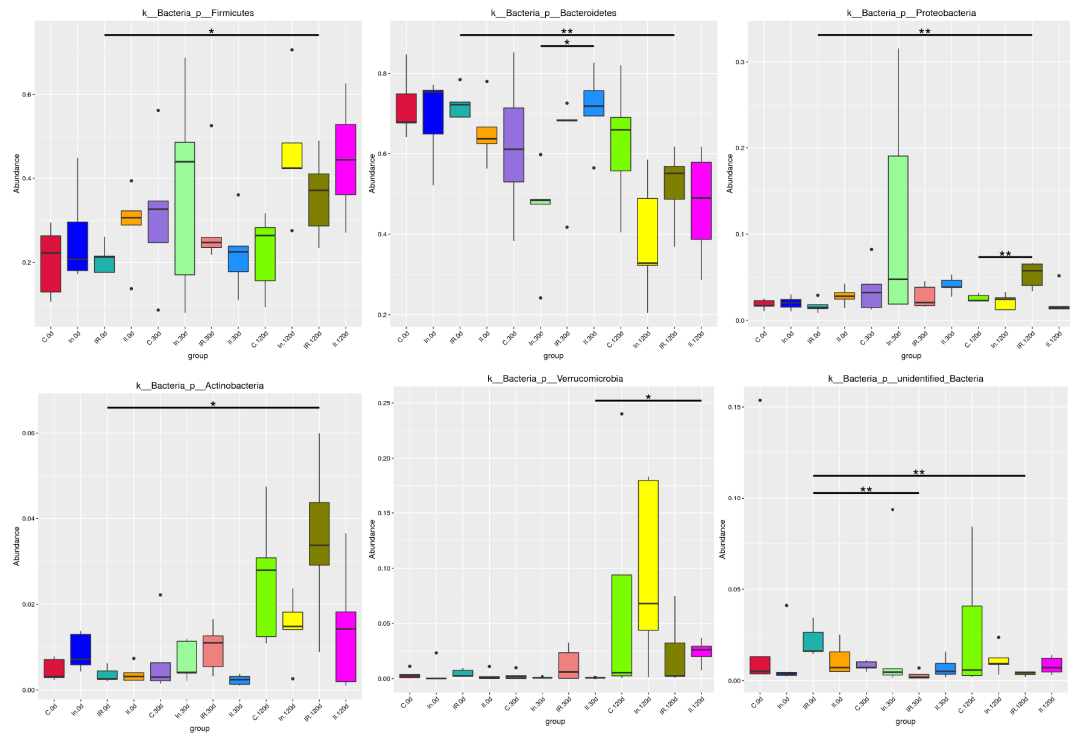


Figure S1: Gavage of inulin protected against radiation-induced gastrointestinal tract injury. A: Mice received inulin gavage for 2 weeks before irradiation (15 Gy). At 120 Days post-irradiation mice were sacrificed. B: Length and relative length of small intestine. Data were obtained from one experiment (n=6-10) and presented at mean $\pm$ standard error. * $p<0.05$; ** $p<0.01$; *** $p<0.001$ (one-way ANOVA, Tukey test)

A



B

Cladogram

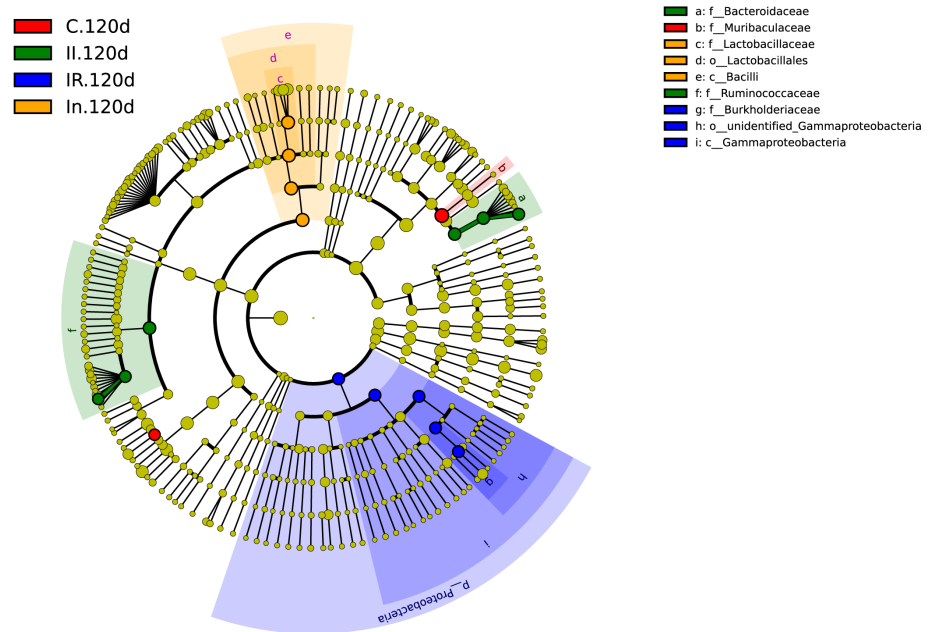


Figure S2 : Gavage of inulin caused the change of specific bacterial species. A: The Metastat analysis at phylum level in different groups of treated mice. B: The LefSe cladogram analysis at 120 days post-irradiation in different groups of treated mice.

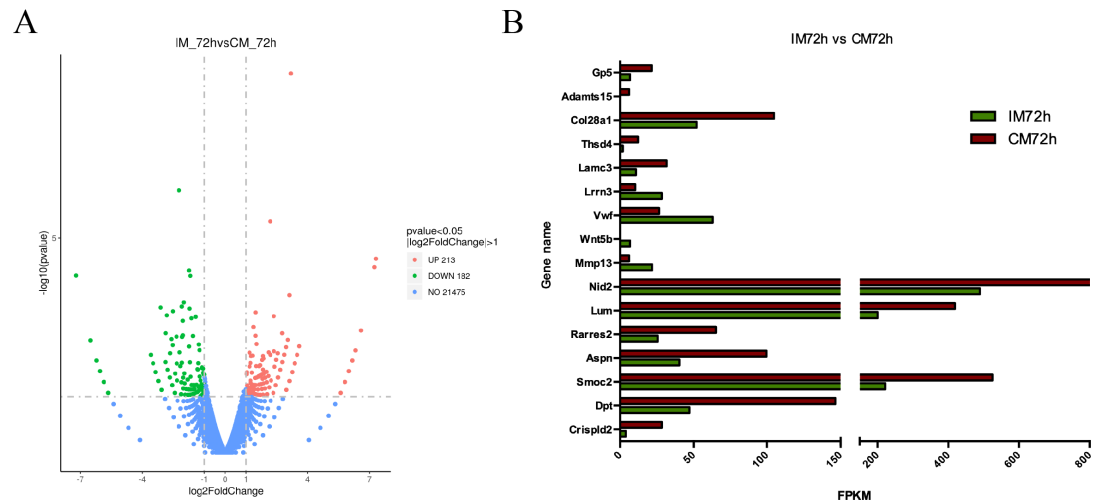


Figure S4: Inulin derived fecal microbiota metabolites altered the gene expression profile of the NIH/3T3 cells compared to those treated with control fecal microbiota metabolites. A: Volcano Plot. Significantly overexpressed genes in IM72h group are represented as 'red' dots and significantly overexpressed genes in CM72h group are represented as 'green' dots. B: FPKM of the extracellular matrix and proteinaceous extracellular matrix gene ontology in terms the relative genes expression in the IM72h group compared to CM72h group.

Table S1 Primers used in this study

Primers	Sequence (5'-3')
α -SMA-F	CTGGAGAAGAGCTACGAACTGC
α -SMA-F	CTGATCCACATCTGCTGGAAGG
Col1A1-F	CAGATTGAGAACATCCGCAGCC
Col1A1-R	TGACCTGTCTCCATGTTGCAGTAG
Col3A1-F	AGAAGTCTCTGAAGCTGATGGGATC
Col3A1-R	TAGTCTCATTGCCTTGCGTGTTTG
Fn1-F	TGCTTTGACCCTTACACGGTT
Fn1-R	CGTTGTCATGGCACCATTTAGA
Timp1-F	GCATCCTCTTGTTGCTATCACT
Timp1-R	GGTCTCGTTGATTTCTGGG
Timp2-F	CAAAGCAGTGAGCGAGAAGG
Timp2-R	TGTCAGGTCCTTTGAACATCTTT
Mmp2-F	GGCTGGAACACTCTCAGGAC
Mmp2-R	CGATGCCATCAAAGACAATG
Mmp9-F	CAGGAGTCTGGATAAGTTGGGTCTAG
Mmp9-R	ACGCCCCTTGCTGAACAG
GAPDH-F	CCCGGGGTCCCAGCTTAGG
GAPDH-R	TTATGGGGGTCTGGGATGGAAATT