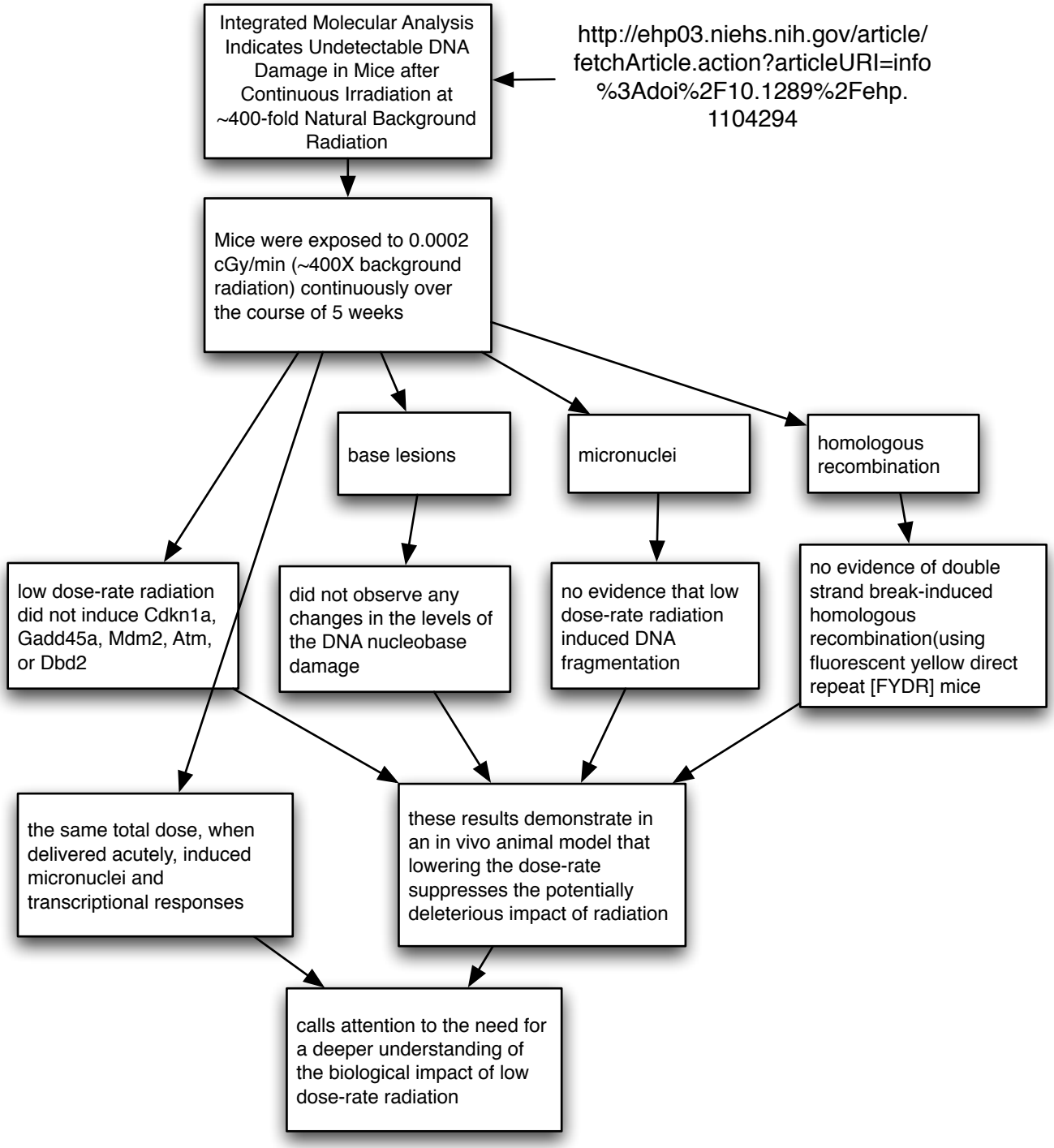
Integrated Molecular Analysis Indicates Undetectable DNA Damage in Mice after Continuous Irradiation at ~400-fold Natural Background Radiation
http://ehp03.niehs.nih.gov/article/fetchArticle.action?articleURI=info%3Adoi%2F10.1289%2Fehp.1104294
Mice were exposed to 0.0002 cGy/min (~400X background radiation) continuously over the course of 5 weeks
base lesions
micronuclei
homologous recombination
low dose-rate radiation did not induce Cdkn1a, Gadd45a, Mdm2, Atm, or Dbd2
did not observe any changes in the levels of the DNA nucleobase damage
no evidence that low dose-rate radiation induced DNA fragmentation
no evidence of double strand break-induced homologous recombination(using fluorescent yellow direct repeat [FYDR] mice
the same total dose, when delivered acutely, induced micronuclei and transcriptional responses
these results demonstrate in an in vivo animal model that lowering the dose-rate suppresses the potentially deleterious impact of radiation
calls attention to the need for a deeper understanding of the biological impact of low dose-rate radiation