

Activator

MRE-11

DNA binding

Empty

-L -W -H

A) Yeast-two hybrid analysis testing pairwise interactions between HAL-2 and HAL-3 and members of the MRE-11/RAD-50 complexes. B) Immunodetection of strand-exchange protein RAD-51 in mid-prophase nuclei from worms of the indicated genotypes, either unirradiated (top) or one hour after exposure to 5kRad of γ-irradiation (bottom); images illustrate that hal-3 is required for efficient formation of meiotic RAD-51 foci but not radiation-induced RAD-51 foci, and that radiation-induced foci in the hal-3 mutant are rad-50 dependent. (A single bright RAD-51 focus is detected in a subset of nuclei in the rad-50 mutant background, attributable to DNA damage arising during DNA replication (HAYASHI et al. 2007). C) Distribution of

RAD-51 foci in gonads of the indicated genotypes illustrates the requirement for RAD-50 for efficient loading of RAD-51 specifically in the middle portion of the gonad following exposure to ionizing irradiation. Samples are the same as in panel B. Scale bar is 2µm in panel B and 20µm in panel C.