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Different roles of two *CHK2* homologues of *Neurospora crassa*

Checkpoint is an important mechanism for genome maintenance in eukaryotes. We have been studied about this mechanism in filamentous fungi *Neurospora crassa*. In *N. crassa*, two *CHK2* homologous genes have been identified from the genome database (*mus-59* and *prd-4*), and we analyzed their functions by using disruptive mutants of these genes. From this study, it was indicated that these two genes have different roles in response to DNA damage or inhibition of replication. Additionally, a unique relationship was observed between *mus-59* and *mus-9*, which is *ATR* homologue of *N. crassa*. We will also report about this point.