Comparison on main gene families among different genotypes

\****Bold Italic***: only on phyD\_FLT \***Bold**: only on GC for that genotype

\*Every gene’s subcellular location was on Nucleus.

col\_FLT: DNA repair – ATRAD9, ATNBS1, ATLIG6, ATLIG4, ATRAD18(SMC5/6 complex)

Gamma rays – ATGR1, ATBRCA1

Others- AT5G52950(subcellular unknown), CHR8, ATATR(cell-cycle regulation)

col\_GC: DNA repair – ATRAD9, ATNBS1, ATLIG6, ATLIG4, ATRAD18(SMC5/6 complex),

**ATRAD54(SWI2/SNF2 family), ATMND1(related to ATRAD51, DSB repair)**

Gamma rays – ATGR1, ATBRCA1

Others- AT5G52950(subcellular unknown), CHR8, ATATR(cell-cycle regulation)

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phyD\_FLT: DNA repair – ATRAD9, ATNBS1, ATLIG6, ATLIG4, ATRAD18(SMC5/6 complex),

ATRAD54(SWI2/SNF2 family), ATMND1(related to ATRAD51, DSB repair),

***ATKU80(interacts with WEX***)

Gamma rays – ~~ATGR1(NO ATGR1 for phyD\_FLT),~~ ATBRCA1, ***ATRAD51***

Others- AT5G52950(subcellular unknown), CHR8, ATATR(cell-cycle regulation),

***CYCB1;1(TCP20), RECQSIM(DNA helicase)***

\*Except 4 new genes and excluding ATGR1 same gene expressed with col\_GC