Additional File 4

Expression vectors. To generate expression plasmids that synthesized recombinant proteins containing wild type or mutated DPs tagged to the C-terminus of EGFP, primer pairs specific for $RIG1_{111\text{-}123}$ (5’-TCGAGTTAGGAACTGTGAGCACTTTGTCACCCAGCTGAGATATGGCTGAG-3’ and 5’-AATTCTCAGCCATATCTCAGCTGGGTGACAAAGTGACAGTTCCTAAC-3’), the NC-mutated DP ($RIG1_{111\text{-}123}$:NC→FG) (5’-TCGAGTTAGGTTTGGCGAGCACTTTGTCACCCAGCTGAGATATGGCTGAG-3’ and 5’-AATTCTCAGCCATATCTCAGCTGGGTGACAAAGTGCTCGCCAAACCTAAC-3’), the Arg^{121}-mutated DP ($RIG1_{111\text{-}123}$:R→E) (5’-TCGAGTTAGGAACTGTGAGCACTTTGTCACCCAGCTGGAGTATGGCTGAG-3’ and 5’-AATTCTCAGCCATACTCCAGCTGGGTGACAAAGTGCTCACAGTTCCTAAC-3’), the $Asp^{112}Cys^{113}Arg^{121}$-mutated DP ($RIG1_{111\text{-}123}$:NCR→FGE) (5’-TCGAGTTAGGTTTGGCGAGCACTTTGTCACCCAGCTGGAGTATGGCTGAG-

3’ and

5’-AATTCTCAGCCATACTCCAGCTGGGTGACAAAGTGCTCGCCAAACCTAAC-3

’) and the Leu^{120}-mutated DP ($RIG1_{111\text{-}123}$:L→C)

(5’-TCGAGTTAGGAACTGTGAGCACTTTGTCACCCAGTGTAGATATGGCTGAG-3

’ and

5’-AATTCTCAGCCATATCTACACTGGGTGACAAAGTGCTCACAGTTCCTAAC-3’)

were annealed, and then subcloned in-frame into *Xho*I-*Eco*RI sites of the pEGFP-C1. Seven amino acids (Ser-Gly-Leu-Arg-Ser-Arg-Val) were inserted between EGFP and DP to serve as a linker, and synthesis of EGFP-DP fusion variants was terminated immediately after the sequence of DP. Expression vectors that synthesized MRFP-tagged truncated RIG1 variants were constructed by subcloned respective cDNA fragment into the pDsRED-Monomer-C1 (Cloned Laboratories).