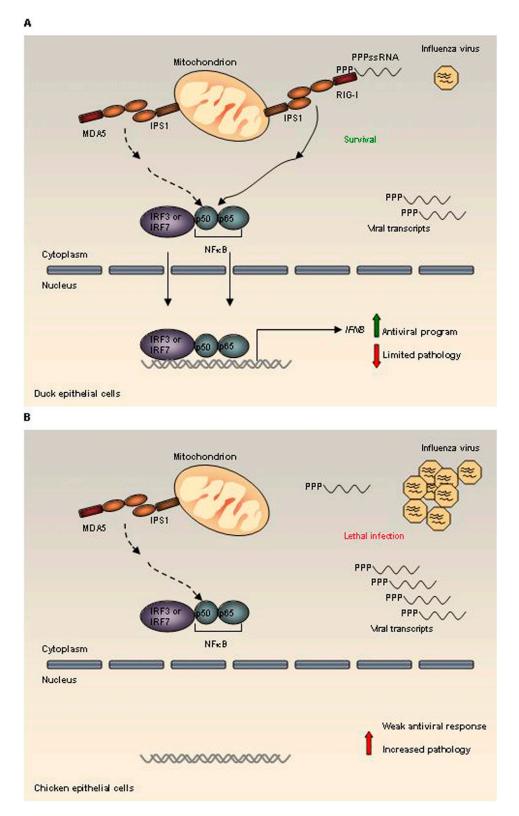
Supporting Information

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Fig. S1. RIG-I detection of influenza viral RNA triggers the IFN response in duck epithelial cells, whereas chickens apparently lack RIG-I. MDA5 and RIG-I, pattern-recognition receptors, initiate signaling pathways that converge at the activation of the transcription factors IFN-regulatory factor 3 (IRF3), IRF7, and/or nuclear factor– κ B; this leads to the expression of IFN- β . (A) Hypothetically, in duck epithelial cells, influenza infection stimulates IFN- β production and an antiviral program that reduces viral replication. (B) In chicken epithelial cells lacking RIG-I, there is a delayed or weak antiviral program and influenza rapidly replicates to cause a lethal infection. PPP, 5' triphosphate.

Duck Chicken 620 TKDHLDKKKRASEPGKVIVLVNKVPLVEQHLRKEFNPFLKRWYQVIGLSGDSQLKISFPEVVRRYDVIISTAQILENSLLNATEEDEEGVRLSDFSLII 	
Duck Chicken 719 DECHHTQKEGVYNNIMRRYIKEKMKNRKLAKENKPLIPQPQILGLTASPGVGGANSNOKAEEHILKICANLDARRIMTVEEHASQLKNQVKEPFKKTVI	
Duck DDKRKDPFRERIIEIMTDIQKYCKLYPKSEFGSQPYEQWVIREEKKAAKEEKRKERVCAEHLKKYNDALQINDTIRMVDAYNHLNNFYKEEKSKKTIGS Chicken 819 DDKR <mark>R</mark> DPFRERIIEIM <mark>O</mark> DIQKYC <mark>O</mark> LYPKSEFGSQPYEQWVIREE <mark>RR</mark> AAKEEKRKERVCAEHLKKYNDALQINDTIRMVDAYNHLNNFYKELK <mark>RR</mark> KTAESI	
Duck DDE PAVSKQDETDEFLIDLFHAKKKQLKELARKPEYENEKLVKLRNTLMEEFTKTKEPRGIIFTKTRQSAFALFQWIKDNPKFEEVGIKAHYLIGAGH Chicken 919 DDEEPLVSKQDETDEFLMRLFHAKKKQLKELARKPEYDNEKLMKLRNTLMEEFTKTEEPRGIIFTKTRQSALALWHWIMDNPKFEEVGIKAHFLIGAGH	
Duck SETKPMTQNEQREVIDKFRGGSÜNLLIATTVAEEGLDIKECNIVIRYGLVTNEIAMLQAR Chicken 1019 <mark>SETKPMTQNEQREVIDKFRGGSI</mark> NLLIATTVAEEGLDIKECNIVIRYGLVTNEIAMUQAR	
Partial DEXD box	

Partial Helicase

Fig. S2. Duck and chicken MDA5 are highly conserved. Alignment of partial duck MDA5 (accession no. GU936632) and chicken MDA5 (accession no. XM_422031) was performed using the ClustalW program and edited with Boxshade. Black shading indicates amino acid identity and gray shading indicates similarity (50% threshold). A partial duck MDA5 clone was amplified using primers based on the chicken sequence: forward mda5 5'-AGT GGC AAA ACC AGA GTG GCT GTT TA-3' and reverse mda5 5'-CAT CAG CTC GAC CCC-3'.