Supporting Information

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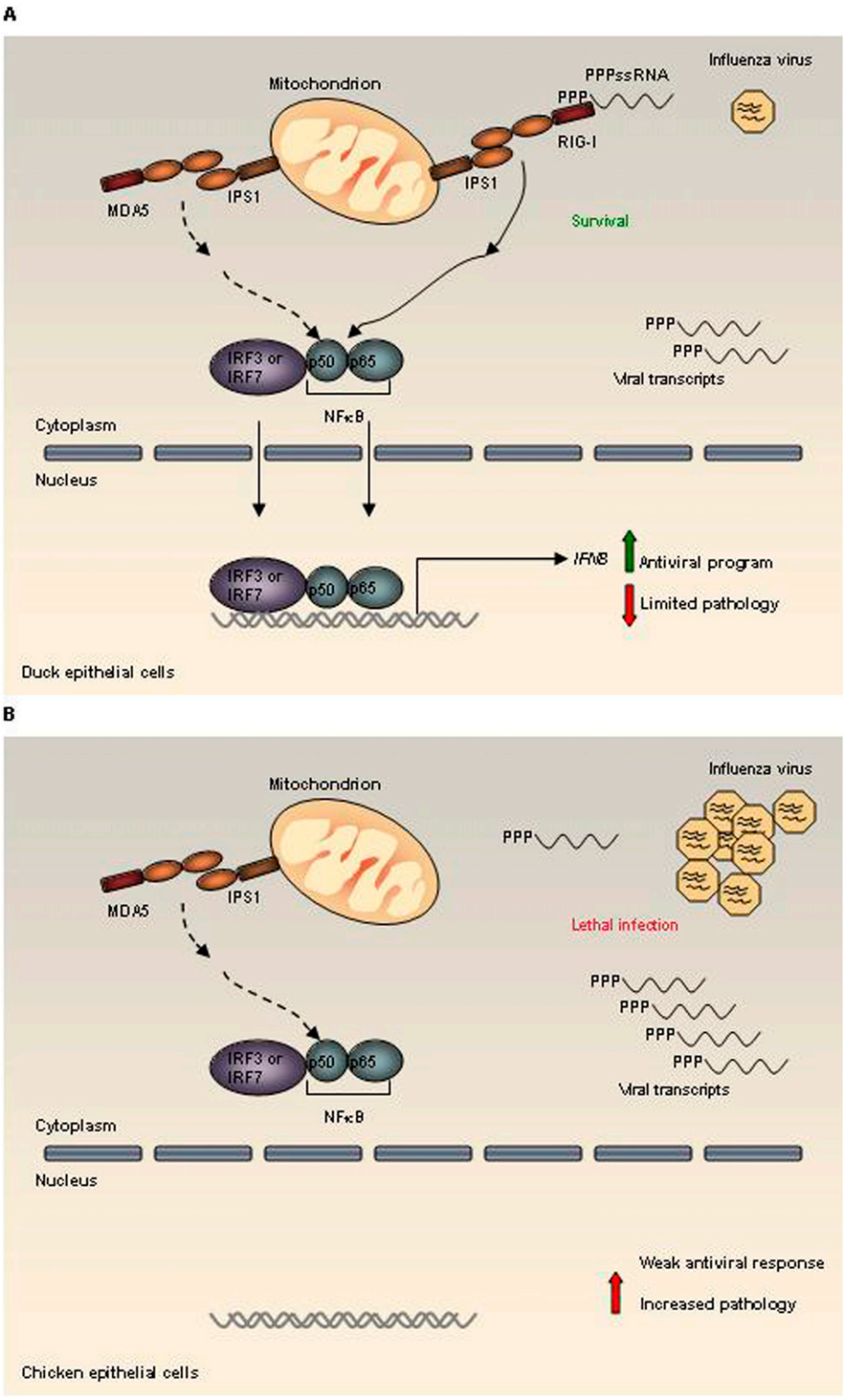

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Fig. S1. RIG-I detection of influenza viral RNA triggers the IFN response in duck epithelial cells, whereas chickens apparently lack RIG-I. MDA5 and RIG-I, pattern-recognition receptors, initiate signaling pathways that converge at the activation of the transcription factors IFN-regulatory factor 3 (IRF3), IRF7, and/or nuclear factor–κB; 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.

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 GAG CTC GAC CC-3′.