Visualizing real-time influenza virus infection, transmission and protection in ferrets

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#	Paper	IF	Citations
95	Multi-Modal Imaging with a Toolbox of Influenza A Reporter Viruses. *Viruses*, **2015**, 7, 5319-27	6.2	28
94	Replication-Competent Influenza B Reporter Viruses as Tools for Screening Antivirals and Antibodies. *Journal of Virology*, **2015**, 89, 12226-31	6.6	14
93	Investigating influenza A virus infection: tools to track infection and limit tropism. *Journal of Virology*, **2015**, 89, 6167-70	6.6	23
92	Replication-Competent Influenza A Viruses Expressing Reporter Genes. *Viruses*, **2016**, 8,	6.2	40
91	Fluorescent and Bioluminescent Reporter Myxoviruses. *Viruses*, **2016**, 8,	6.2	4
90	A High Throughput Assay for Screening Host Restriction Factors and Antivirals Targeting Influenza A Virus. *Frontiers in Microbiology*, **2016**, 7, 858	5.7	1
89	Fast and high resolution single-cell BRET imaging. *Scientific Reports*, **2016**, 6, 28231	4.9	33
88	Novel bioluminescent binding assays for interaction studies of protein/peptide hormones with their receptors. *Amino Acids*, **2016**, 48, 1151-60	3.5	6
87	NanoLuc: A Small Luciferase Is Brightening Up the Field of Bioluminescence. *Bioconjugate Chemistry* , **2016**, 27, 1175-1187	6.3	202
86	What can imaging tell us about influenza virus transmission and protection?. *Future Virology*, **2016**, 11, 583-590	2.4	
85	Obesity Outweighs Protection Conferred by Adjuvanted Influenza Vaccination. *MBio*, **2016**, 7,	7.8	51
84	1001 lights: luciferins, luciferases, their mechanisms of action and applications in chemical analysis, biology and medicine. *Chemical Society Reviews*, **2016**, 45, 6048-6077	58.5	172
83	Complexities in Ferret Influenza Virus Pathogenesis and Transmission Models. *Microbiology and Molecular Biology Reviews*, **2016**, 80, 733-44	13.2	51
82	An ultrasensitive NanoLuc-based luminescence system for monitoring Plasmodium berghei throughout its life cycle. *Malaria Journal*, **2016**, 15, 232	3.6	26
81	Type I Interferon Response Limits Astrovirus Replication and Protects against Increased Barrier Permeability In Vitro and In Vivo. *Journal of Virology*, **2016**, 90, 1988-96	6.6	35
80	Selective Bottlenecks Shape Evolutionary Pathways Taken during Mammalian Adaptation of a 1918-like Avian Influenza Virus. *Cell Host and Microbe*, **2016**, 19, 169-80	23.4	49
79	Highly Potent Cell-Permeable and Impermeable NanoLuc Luciferase Inhibitors. *ACS Chemical Biology*, **2017**, 12, 1028-1037	4.9	18

78	Sensitive luminescent reporter viruses reveal appreciable release of hepatitis C virus NS5A protein into the extracellular environment. *Virology*, **2017**, 507, 20-31	3.6	12
77	In Vivo Molecular Bioluminescence Imaging: New Tools and Applications. *Trends in Biotechnology*, **2017**, 35, 640-652	15.1	149
76	B Cell Activity Is Impaired in Human and Mouse Obesity and Is Responsive to an Essential Fatty Acid upon Murine Influenza Infection. *Journal of Immunology*, **2017**, 198, 4738-4752	5.3	78
75	Fluorescent-Based Strategies to Investigate G Protein-Coupled Receptors: Evolution of the Techniques to a Better Understanding. *Topics in Medicinal Chemistry*, **2017**, 217-252	0.4	1
74	Increased risk of influenza among vaccinated adults who are obese. *International Journal of Obesity*, **2017**, 41, 1324-1330	5.5	131
73	A replication-competent foot-and-mouth disease virus expressing a luciferase reporter. *Journal of Virological Methods*, **2017**, 247, 38-44	2.6	4
72	Comparison of traditional intranasal and aerosol inhalation inoculation of guinea pigs with visualizing influenza virus. *Journal of Aerosol Science*, **2017**, 110, 43-52	4.3	3
71	Imaging of Influenza Virus Infection in Immunized Mice. *MBio*, **2017**, 8,	7.8	22
70	Imaging with Bioluminescent Enterovirus 71 Allows for Real-Time Visualization of Tissue Tropism and Viral Spread. *Journal of Virology*, **2017**, 91,	6.6	14
69	Pandemic 2009 H1N1 Influenza Venus reporter virus reveals broad diversity of MHC class II-positive antigen-bearing cells following infection in vivo. *Scientific Reports*, **2017**, 7, 10857	4.9	20
68	A Perfect Storm: Increased Colonization and Failure of Vaccination Leads to Severe Secondary Bacterial Infection in Influenza Virus-Infected Obese Mice. *MBio*, **2017**, 8,	7.8	22
67	The logistic growth model as an approximating model for viral load measurements of influenza A virus. *Mathematics and Computers in Simulation*, **2017**, 133, 206-222	3.3	6
66	Generation and application of replication-competent Venus-expressing H5N1, H7N9, and H9N2 influenza A viruses. *Science Bulletin*, **2018**, 63, 176-186	10.6	2
65	In-vivo monitoring of infectious diseases in living animals using bioluminescence imaging. *Virulence*, **2018**, 9, 28-63	4.7	50
64	Development and application of bioluminescence imaging for the influenza A virus. *Journal of Thoracic Disease*, **2018**, 10, S2230-S2237	2.6	3
63	Causes and Consequences of Spatial Within-Host Viral Spread. *Viruses*, **2018**, 10,	6.2	29
62	Workshop report: Experimental animal models for universal influenza vaccines. *Vaccine*, **2018**, 36, 6895-6901	4.1	5
61	Measuring Influenza Virus Infection Using Bioluminescent Reporter Viruses for In Vivo Imaging and In Vitro Replication Assays. *Methods in Molecular Biology*, **2018**, 1836, 431-459	1.4	6

60	Directed Evolution of an Influenza Reporter Virus To Restore Replication and Virulence and Enhance Noninvasive Bioluminescence Imaging in Mice. *Journal of Virology*, **2018**, 92,	6.6	8
59	Incomplete influenza A virus genomes occur frequently but are readily complemented during localized viral spread. *Nature Communications*, **2019**, 10, 3526	17.4	32
58	In Vivo Imaging-Driven Approaches to Study Virus Dissemination and Pathogenesis. *Annual Review of Virology*, **2019**, 6, 501-524	14.6	5
57	Nanobody-based sandwich reporter system for living cell sensing influenza A virus infection. *Scientific Reports*, **2019**, 9, 15899	4.9	6
56	NanoBRET: The Bright Future of Proximity-Based Assays. *Frontiers in Bioengineering and Biotechnology*, **2019**, 7, 56	5.8	48
55	A Novel Fluorescent and Bioluminescent Bireporter Influenza A Virus To Evaluate Viral Infections. *Journal of Virology*, **2019**, 93,	6.6	20
54	Development and Applications of Bioluminescent and Chemiluminescent Reporters and Biosensors. *Annual Review of Analytical Chemistry*, **2019**, 12, 129-150	12.5	73
53	Identification of Factors Complicating Bioluminescence Imaging. *Biochemistry*, **2019**, 58, 1689-1697	3.2	19
52	EPS8 Facilitates Uncoating of Influenza A Virus. *Cell Reports*, **2019**, 29, 2175-2183.e4	10.6	8
51	Longitudinal bioluminescent imaging of HIV-1 infection during antiretroviral therapy and treatment interruption in humanized mice. *PLoS Pathogens*, **2019**, 15, e1008161	7.6	14
50	Absence of β6 Integrin Reduces Influenza Disease Severity in Highly Susceptible Obese Mice. *Journal of Virology*, **2019**, 93,	6.6	9
49	A Guide for the Use of the Ferret Model for Influenza Virus Infection. *American Journal of Pathology* , **2020**, 190, 11-24	5.8	12
48	A materials-science perspective on tackling COVID-19. *Nature Reviews Materials*, **2020**, 1-14	73.3	123
47	A NanoLuc Luciferase Reporter Pseudorabies Virus for Live Imaging and Quantification of Viral Infection. *Frontiers in Veterinary Science*, **2020**, 7, 566446	3.1	3
46	Coelenterazine-Dependent Luciferases as a Powerful Analytical Tool for Research and Biomedical Applications. *International Journal of Molecular Sciences*, **2020**, 21,	6.3	10
45	Influenza virus repurposes the antiviral protein IFIT2 to promote translation of viral mRNAs. *Nature Microbiology*, **2020**, 5, 1490-1503	26.6	15
44	NanoBiT System and Hydrofurimazine for Optimized Detection of Viral Infection in Mice-A Novel in Vivo Imaging Platform. *International Journal of Molecular Sciences*, **2020**, 21,	6.3	4
43	Synthetic Virology: Building Viruses to Better Understand Them. *Cold Spring Harbor Perspectives in Medicine*, **2020**, 10,	5.4	1

42	Ferreting Out Influenza Virus Pathogenicity and Transmissibility: Past and Future Risk Assessments in the Ferret Model. *Cold Spring Harbor Perspectives in Medicine*, **2020**, 10,	5.4	12
41	Obesity-Related Microenvironment Promotes Emergence of Virulent Influenza Virus Strains. *MBio*, **2020**, 11,	7.8	57
40	Applications of bioluminescence in biotechnology and beyond. *Chemical Society Reviews*, **2021**, 50, 5668-5705	58.9	25
39	Generation and Characterization of recombinant SARS-CoV-2 expressing reporter genes. *Journal of Virology*, **2021**,	6.6	20
38	Infection Percolation: A Dynamic Network Model of Disease Spreading. *Frontiers in Physics*, **2021**, 9,	3.9	
37	Self-luminescent photodynamic therapy and pathogen detection for infectious diseases. *Drug Delivery and Translational Research*, **2021**, 11, 1451-1455	6.2	6
36	The recent biological applications of selenium-based nanomaterials. *Nano Today*, **2021**, 38, 101205	17.9	9
35	Dynamically linking influenza virus infection kinetics, lung injury, inflammation, and disease severity. *ELife*, **2021**, 10,	8.9	11
34	Influenza A virus segments five and six can harbor artificial introns allowing expanded coding capacity. *PLoS Pathogens*, **2021**, 17, e1009951	7.6	1
33	Influenza A virus undergoes compartmentalized replication in vivo dominated by stochastic bottlenecks.		1
32	Generation and Characterization of recombinant SARS-CoV-2 expressing reporter genes.		2
31	Incomplete influenza A virus genomes are abundant but readily complemented during spatially structured viral spread.		3
30	Optimisations and Challenges Involved in the Creation of Various Bioluminescent and Fluorescent Influenza A Virus Strains for In Vitro and In Vivo Applications. *PLoS ONE*, **2015**, 10, e0133888	3.7	23
29	Replication-Competent Influenza A and B Viruses Expressing a Fluorescent Dynamic Timer Protein for In Vitro and In Vivo Studies. *PLoS ONE*, **2016**, 11, e0147723	3.7	24
28	Fiat Luc: Bioluminescence Imaging Reveals In Vivo Viral Replication Dynamics. *PLoS Pathogens*, **2015**, 11, e1005081	7.6	16
27	Location, Location, Location: Five Facts about Tissue Tropism and Pathogenesis. *PLoS Pathogens*, **2016**, 12, e1005519	7.6	14
26	An Epithelial Integrin Regulates the Amplitude of Protective Lung Interferon Responses against Multiple Respiratory Pathogens. *PLoS Pathogens*, **2016**, 12, e1005804	7.6	25
25	Non-invasive Imaging of Sendai Virus Infection in Pharmacologically Immunocompromised Mice: NK and T Cells, but not Neutrophils, Promote Viral Clearance after Therapy with Cyclophosphamide and Dexamethasone. *PLoS Pathogens*, **2016**, 12, e1005875	7.6	10

24	Mapping influenza transmission in the ferret model to transmission in humans. *ELife*, **2015**, 4,	8.9	27
23	Influenza virus recruits host protein kinase C to control assembly and activity of its replication machinery. *ELife*, **2017**, 6,	8.9	36
22	Vaccination against Viruses. **2016**, 389-395		
21	Identification of Factors Complicating Bioluminescence Imaging.		
20	Optical In Vivo Imaging in Tuberculosis Research. **2019**, 155-200		
19	Dynamically Linking Influenza Virus Infection Kinetics, Lung Injury, Inflammation, and Disease Severity.		4
18	EPS8 facilitates uncoating of influenza A virus.		1
17	A novel approach for monitoring TGF-β signaling in vivo in colon cancer. *Carcinogenesis*, **2021**, 42, 631-639	4.6	0
16	Alternative splicing liberates a cryptic cytoplasmic isoform of mitochondrial MECR that antagonizes influenza virus.		1
15	Animal models for SARS-CoV-2 infection and pathology.. *MedComm*, **2021**, 2, 548	2.2	10
14	Spatial metabolomics reveals localized impact of influenza virus infection on the lung tissue metabolome.		
13	Real-time tracking of bioluminescent influenza A virus infection in mice.. *Scientific Reports*, **2022**, 12, 3152	4.9	0
12	Robustness of the ferret model for influenza risk assessment studies: a cross-laboratory exercise.		
11	A recombinant murine rotavirus with Nano-Luciferase expression reveals tissue tropism, replication dynamics, and virus transmission.		0
10	In Vivo Tracking of Bacterial Colonization in Different Murine Models Using Bioluminescence: The Example of Salmonella. *Methods in Molecular Biology*, **2022**, 235-248	1.4	0
9	Influenza A virus undergoes compartmentalized replication in vivo dominated by stochastic bottlenecks. *Nature Communications*, **2022**, 13,	17.4	0
8	Spatial Metabolomics Reveals Localized Impact of Influenza Virus Infection on the Lung Tissue Metabolome. *MSystems*,	7.6	
7	Generation, Characterization, and Applications of Influenza A Reporter Viruses. *Methods in Molecular Biology*, **2022**, 249-268	1.4	

6	Robustness of the Ferret Model for Influenza Risk Assessment Studies: a Cross-Laboratory Exercise. *MBio*,	7.8	2
5	A recombinant murine-like rotavirus with Nano-Luciferase expression reveals tissue tropism, replication dynamics, and virus transmission. 13,		0
4	Neuraminidase activity modulates cellular co-infection during influenza A virus multicycle growth.		0
3	Assessing the fitness of a dual-antiviral drug resistant human influenza virus in the ferret model. **2022**, 5,		0
2	Alternative splicing liberates a cryptic cytoplasmic isoform of mitochondrial MECR that antagonizes influenza virus. **2022**, 20, e3001934		1
1	Neuraminidase Activity Modulates Cellular Coinfection during Influenza A Virus Multicycle Growth.		0