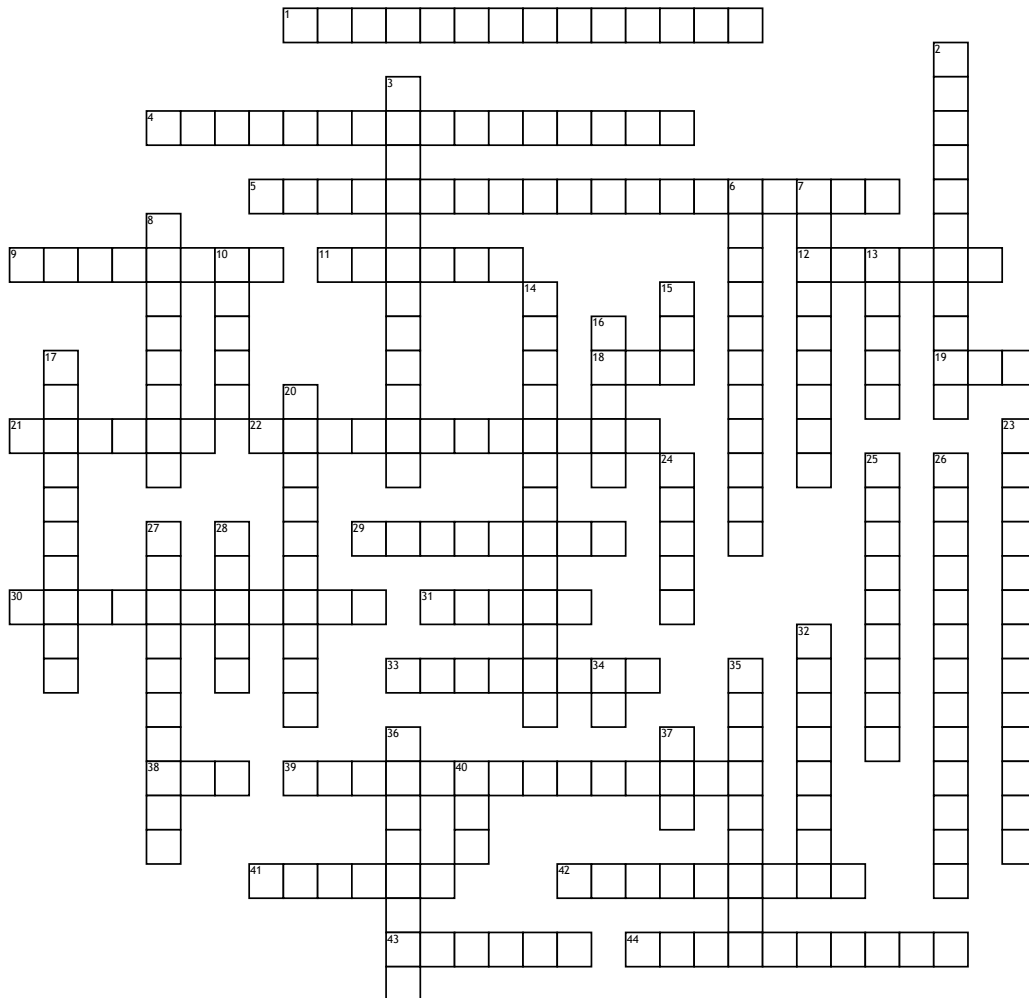


Influenza Virus



Across

1. What step releases all segments into the nucleus where transcription happens²
4. Influenza virus belongs to what family²
5. Complete structures of IAV, IBV and ICV have been seen through³
9. High mutation rates allow the evasion of¹
11. Populations that include infants, elders, pregnant women and immunocompromised are considered¹
12. How many subtypes does IAV have²
18. What strain of influenza circulates in waterfowl and is associated with asymptomatic infections¹
19. What influenza can infect humans but are rarely have symptomatic disease in humans³
21. What month is influenza peak in¹
22. Hemagglutinin is a trimeric ___ presented in the membrane envelope of influenza virus²
29. How many HA classes have been identified³
30. The first glimpse of the virus was from electron²
31. How many regions are structural differences located in²
33. Endocytosis is contained in the²

38. What types of influenza can infect vertebrates³
 39. What pandemic killed 1 in 30 of the population in 18 months in 1918¹
 41. What layer is formed by the matrix protein²
 42. "Influenza" comes from the Italian language for²
 43. How many NA classes have been identified³
 44. What host species do viruses have an unusual ability to adapt to¹
- ## Down
2. The multivalent attachment of trimetric HA triggers²
 3. Serious illness is due to secondary bacterial infections or ___ of cardiovascular and respiratory illness¹
 6. The first step of influenza virus entry is²
 7. IAV, IBV, and ICV are highly transmissible respiratory¹
 8. HA trimers are ___ through a transmembrane domain²
 10. What association of the virus particle induces endocytosis²
 13. How many viral genome segments are released into the nucleus²
 14. What kind of RNA genome is in seven or eight segments¹
 15. What type of influenza has not been detected in humans³

16. What membrane does the virion contain that is derived from the plasma membrane²
17. In humans, influenza viruses infect the respiratory¹
20. Ranging from spheres to extremely long filaments¹
23. The role of the fusion protein of influenza virus is²
24. Typical symptoms appear days after infection and resolve within¹
25. The reason influenza occurs annually is because of the²
26. What plays a key role in the entire entry pathway²
27. Mature HA trimers can be released from the surface of the virion by²
28. How many types of influenza virus are there²
32. Adaptation of new IAV strains can cause a¹
34. What ion channel protein is outside the membrane³
35. NA inhibitors can be used for¹
36. Influenza ___ are available annually and must be updated accurately¹
37. In humans, what day before onset of symptoms does Viral shedding begin¹
40. What strain of influenza causes serious illness in poultry¹

Word Bank

GLYCOPROTEIN	HEMAGGLUTININ	ORTHOMYXOVIRIDAE	WEEKS	EXACERBATION	PATHOGENS
LIPID	THREE	IAV	M2	PANDEMIC	TREATMENT
XRAYCRYSTALLOGRAPHY	EIGHT	TWENTY	MATRIX	WINTER	ENDOCYTOSIS
HEMAGGLUTININ	PLEMORPHIC	EIGHTEEN	GREATINFLUENZA	RECOGNITION	NEGATIVESENSE
TIGHT	IAV	PROTEINASE	STRUCTURE	ELEVEN	ANCHORED
ATRISK	MEMBRANEFUSION	EPITHELIUM	ONE	THREE	INFLUENCE
IMMUNITY	ENDOSOME	VACCINES	ALL	VERTEBRATE	IDV
ICV	MICROGRAPHS				