Oregon State Public Health Laboratory (OSPHL)

Guidance for Interpretation of Influenza A Subtyping Results

Seasonal Influenza A Subtyping Results Interpretation

[1]InfA	[2]H3	[3]Pdm IA	[4]Pdm H1	RNase P	Assay Results Interpretation	Notes	Response
+	+	-	-	±	Influenza A/H3	Seasonal influenza A	
+	-	+	+	±	Influenza A/2009 Pandemic H1N1	Seasonal influenza A	
+	+	+	-	±	Presumptive Influenza A/H3N2v	This may be a swine origin variant virus. For more information on H3N2v refer to https://www.cdc.gov/flu/swineflu/variant/h3n2v-cases.htm	Refer to CDC for confirmation.
+	+	+	+	±	Influenza A/Indeterminate Subtype	Possible co-infection or recent Live Attenuated Influenza Vaccine (LAIV) detection.	Refer to CDC for further characterization.
+	-	+	-	±	Influenza A/Indeterminate Subtype	*Possible novel, newly emerging influenza, or swine triple reassortant variant.	
+	-	-	+	±			
+	+	-	+	±			
+	-	-	-	+	Influenza A/Indeterminate Subtype	*Possible novel or newly emerging influenza virus.	
-	-	-	-	-	Inconclusive/unsatisfactory	The absence of RNase P indicates that the specimen was inadequate for testing.	Recollection of new specimen for testing should be considered.

Avian Influenza A Subtyping Results Interpretation:

InfA	H5a	H5b	RP	Assay Results Interpretation	Notes	Response
+	+	+	±	Presumptive Influenza A/H5	Possible Human Avian Influenza virus (bird flu). For more information refer to https://www.cdc.gov/flu/avianflu/influenza-a-virus-subtypes.htm	Submit to CDC for confirmation and further characterization.
+	+	-	±	Indeterminate Influenza A/H5		
+	-	+	±			

Notes:

- Influenza test results are reported to the CDC Influenza Surveillance program which can be found at https://www.cdc.gov/flu/weekly/index.htm
- Influenza targets for subtyping assays:
  [1]FluA - Universal influenza A recognizes a highly conserved region of the matrix (M).
  [2]H3 - Seasonal influenza A/H3 recognizes highly conserved region of hemagglutinin (HA).
  [3]Pdm IA -2009 pandemic Influenza A is of swine origin and reacts to highly conserved region of the nucleoprotein (NP).
  [4]Pdm H1 - 2009 pandemic influenza A/H1 recognizes highly conserved region of the swine hemagglutinin.

*Influenza A results with high Ct values (> 32) are often suggestive of low virus number and may not generate a legitimate influenza subtype.