

Seasonal Influenza Lab b-roll description

:37 - Laboratorians are preparing to perform an influenza hemagglutination inhibition (HI) test. This test is performed to antigenically characterize influenza viruses. At the CDC, large HI tests are used to characterize viruses by type and subtype.

:56 – The laboratorian is standardizing antigens for the HI test. The antigens are viruses that are sent to CDC from around the world for surveillance. At the CDC they are regrown to increase volume and titer. For the HI test, the antigens must be standardized to a consistent working unit.

2:20– The laboratorian is using an automated liquid handler to add buffer to the 96 well plates as part of the test.

3:25 - The laboratorian is standardizing antigens for the HI test.

4:05 - The laboratorians are wearing gloves, eye protection, and a lab coat. This is the proper personal protective equipment for performing the HI test on seasonal influenza viruses.

4:31– Ferret serum, which is used in the HI test, is produced with seasonal virus strains at the CDC. In this step, the laboratorian is preparing the ferret serum for the HI test.

5:24– The laboratorian labels the tubes that will be used for the serum aliquots. These will be used in the test.

5:54– The laboratorian aliquots the serum into the labeled tubes

7:35– This scene shows the automated liquid handler used for adding the correct amount of each reagent needed for the test.

8:40– A back titration is performed to make sure all antigens were correctly standardized. 96 well plates containing standardized antigen, buffer, and red blood cells are mechanically shaken and then incubated at room temperature for 30 minutes.

8:54– Ferret serum has been added to the 96 well plates and the automated liquid handlers are diluting it with phosphate buffered saline.

9:34– Standardized red blood cells are mixed to ensure that they stay in solution.

10:07– Automated liquid handlers add red blood cells to 96 well plates to perform a back titration. This determines if all of the antigens were standardized.

10:22– Standardized antigens are adjusted after the first back titration.

11:03– The laboratorian mixes the antigens using a vortex.

11:11– Treated ferret serum is removed from the refrigerator.

11:31– Antigens are removed from the refrigerator.

11:40– The laboratorian examines and verifies that labels are correct, and that there is sufficient volume of antigen to perform the test.

11:52 - Antigens are removed from the refrigerator.

12:02 - The laboratorian examines and verifies that labels are correct, and that there is sufficient volume of antigen to perform the test.

12:18– Laboratorian adds treated ferret serum to 8 well troughs. Each trough holds a different ferret serum.

12:37– Serum is added to the test plates using an electronic multi-channel pipetter.

12:53– The laboratorian verifies that all information is correct before adding the serum to the 8 well trough.

13:09 - Serum is added to the test plates using an electronic multi-channel pipetter.

14:20– Influenza viruses are often grown in live, embryonated chicken eggs. The laboratorian candles eggs to determine if they are viable and can be used for isolating virus.

14:41– A viable egg shows blood vessels and an embryo.

14:57– A non-viable “dead” egg does not show blood vessels.

15:02– Another viable egg.

15:07– Non-viable eggs are set aside for disposal, and viable eggs are prepared for virus inoculation.

END