Label Screening

VaxArray® Imaging and Analysis System

Overview

The VaxArray Imaging and Analysis System is an innovative method for analyzing the concentration of influenza antigens in a given sample. The technology relies on an antibody 'sandwich' for quantification. A substrate adhered 'capture' antibody immobilizes the antigen of interest, while a fluorescently tagged 'label' antibody binds to the immobilized antigen and the relative fluorescence is used to calculate antigen concentration. The monoclonal 'capture' antibodies used in the VaxArray technology are well characterized and specific to particular influenza subtypes. InDevR, Inc. also produces a number of different label antibodies with different characteristics that can be used to tailor the assay to the user's needs.

Label Antibodies

Using the appropriate label for an antigen is an important factor in optimizing the VaxArray technology for a given sample. To this end, InDevR, Inc. has a broad catalogue of potential labels for use with the system. These labels range from a very broadly reactive polyclonal label (A&B pAb Label, VXI-7601) to more specific monoclonal labels reactive to only a narrow subset of antigens. Choosing the correct label for your samples will help to optimize the assay for your application.

Label Screening

When first analyzing a sample using the VaxArray system users should attempt to determine the label antibody that works best for their samples. This can be done by testing two or more potential labels against an individual sample on a single slide. The label that results in the highest signal should be used in experiments with this sample type in the future. In order to determine which InDevR labels to use with your samples, users should consult the Label Selection Guide provided at InDevR.com.

The simplest way to test a variety of labels with your sample is to set up four replicate dilutions of a single sample. Add these dilutions to your chip in quadruplicate and follow the appropriate VaxArray Influenza Assay Operation Manual. When label preparation occurs, prepare each label in your screening separately and apply a different label to each set of sample dilutions. After incubation with label, continue to follow the standard VaxArray Influenza Assay Operation Manual.

After drying, scan the resulting slide on the VaxArray Imaging and Analysis Software using Raw Analysis Mode. After scanning compare the fluorescent signals from each of the different labels. Selecting the label with the highest signal intensities will ensure optimal signal on the VaxArray Influenza Assay.

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Stability Indication

VaxArray monoclonal labels and capture antibodies are sensitive to different regions of influenza surface proteins. As such, they also react differently to protein degradation. If the structural stability of a protein is of interest it may also be important to test the effects of heat treatment on sample-label combinations. We recommend treating samples at 50°C for 1, 5 and 20 hours. These heat treated samples can then be applied to the VaxArray Microarray Slide and labeled using a panel of label antibodies. Label antibodies that are most sensitive to protein structure will show a more dramatic loss of signal as incubation time at high temperature increases.

Summary

The selection of an appropriate label antibody is an important step for optimizing the VaxArray influenza Assay for particular sample types. By performing a simple and rapid label screening, the best performing label can be easily selected from amongst the available labels.

Current Label Catalogue

H1 Labels

Label	Part Number
A&B pAb Label	VXI-7601
A H1-02	VXI-7602
A H1-09	VXI-7609
A HA-04	VXI-7604

H3 Labels

Label	Part Number
A&B pAb Label	VXI-7601
A H3-03	VXI-7603
A H3-08	VXI-7608
A H3-10	VXI-7610

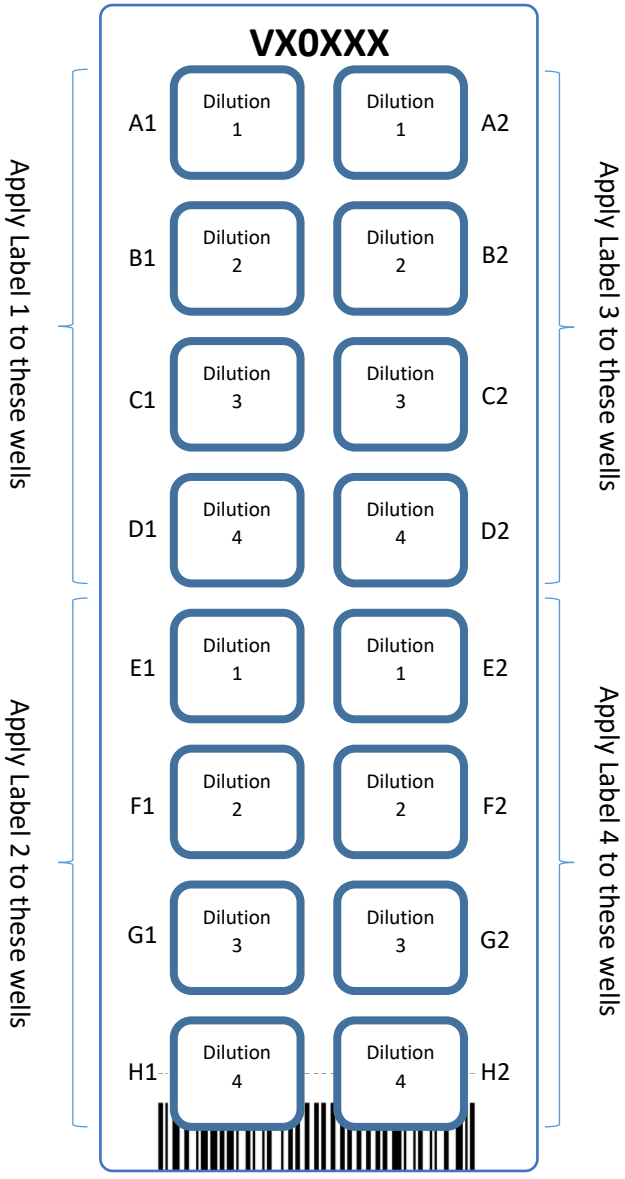
B/Yamagata Labels

Label	Part Number
A&B pAb Label	VXI-7601
B Yam-07	VXI-7607

B/Victoria Labels

Label	Part Number
A&B pAb Label	VXI-7601
B Vic-06	VXI-7606

Example Slide Layout for Label Screening



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