ViroTag® INVA & ViroTag® INVB Reagents
Real-Time Quantification of Influenza A and B Strains with the Virus Counter® Platform

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The Virus Counter 3100 Platform and Antibody-Based ViroTag® Reagents Provide Unique Insights:

- **Real-time quantification** – Process monitoring and production optimization
- **Rapid, biologically-relevant readout** – Total viral particles
- **High-specificity quantification** – Fluorescently labeled antibodies
- **Robust detection** – Early process "dirty" samples
- **Reduced standard errors** – Versus $TCID_{50}$

Influenza Virus Quantification

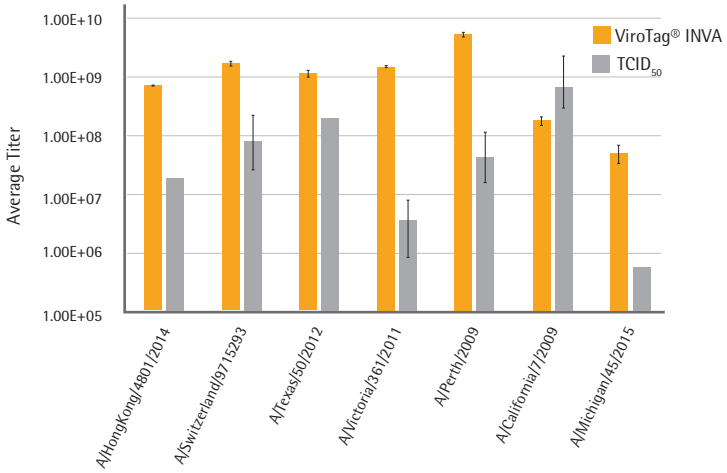
Quantification of influenza virus particles can be very challenging. Measurement of virus counts by infectivity often relies upon highly variable methods such as $TCID_{50}$. Indirect methods such as qRT-PCR often give artificially high counts. Current methods are time-consuming and require days to weeks to deliver a result, potentially delaying manufacturing processes and the delivery of new vaccines to the public. Rapid and precise analytical methods are needed to monitor virus production and enumerate total particles used in final formulations.

The production of influenza vaccines against seasonal and pandemic influenza strains is a time-critical process. Setbacks in vaccine production can delay the availability of these life-saving products to the public and is a key concern. Accurate monitoring of virus production and purification processes can help ensure the vaccine is available on-time.

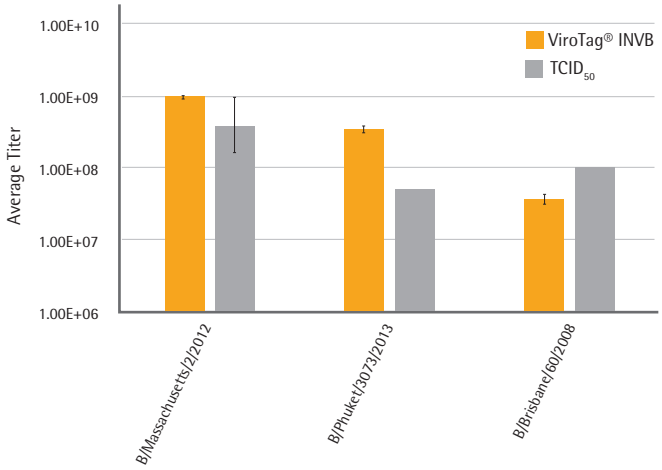
Total Particle Quantification Compared to Infectious Units

Total particle quantification is quick and precise as shown by the reduced standard deviation compared to $TCID_{50}$ values.
Total particle to infectious particle ratios vary significantly among influenza samples.

Comparison of Influenza A strain quantification with ViroTag INVA reagent to $TCID_{50}$ titers



Comparison of Influenza B strain quantification with ViroTag INVB reagent to $TCID_{50}$ titers



Error bars represent standard deviation, standard deviation not available for all samples

The Virus Counter® 3100 Platform

- **Direct, precise, accurate** – Quantification of total virus particles
- **Universal** – Nucleic acid and protein based detection (ComboDye™ reagent)
- **Biologically specific detection** – Antibody-based detection (ViroTag® reagent)
- **Ease of use** – Patented no-wash assay
- **Simplified workflow** – 30 minute incubation, 3 minute analysis per sample

The Virus Counter® Platform offers three influenza virus specific ViroTag® reagents that address unique quantification needs. Choose the ideal product for your sample

	Epitope Recognition	2 Channel Recognition	Influenza A Strains	Influenza B Strains	Egg-Grown Virus	Cell-Culture Grown Virus
ViroTag INVA	+		+		+	+
ViroTag INVB	+			+	+	+
ViroTag INVX	+		+	+		+
ComboDye		+	+	+		+

Order Information

Reagents	Order Number
ViroTag INVA	**VIR-91151**
ViroTag INVB	**VIR-91152**
ViroTag INVX	**VIR-92309**
ComboDye	**VIR-92095**

The Virus Counter® Platform is for research use or further manufacturing use only – not for use in therapeutic or diagnostic procedures. They are not for in vitro diagnostic use nor are they medical devices. Drug manufacturers and clinicians are responsible for obtaining the appropriate IND/BLA/NDA approvals for clinical applications.

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