

## Viral Inactivation Buffer (VIB) Inactivir® SDT buffers

The Life Science Group (LSG) Viral Inactivation Buffer **Inactivir® SDT** and **Inactivir® SDT COMPLETE** buffers have been developed in collaboration with the University of Bedfordshire. Their formulation is based on established viral inactivation methods to provide a buffer that will inactivate viruses responsible for pandemics such as Covid-19 and seasonal influenza and epidemics such as SARS, MERS and Ebola.

These products are specialist derivatives of the core **Inactivir® SD LITE** and **SD COMPLETE** buffers that have been developed for loop-mediated isothermal amplification (LAMP) based testing of samples. The key difference to our core buffers is optimisation of the buffer to improve compatibility with LAMP assay methods. This includes both optical and fluorescent dye-based detection systems. As for the core buffers, they will inactivate the pathogen in the collection tube containing a patient or other potentially pathogenic sample. They will lyse cells and denature any virus in the sample, rendering the virus inactive and non-pathogenic. This results in a non-pathogenic sample for testing.

**Inactivir® SDT** is designed for immediate testing procedures and to minimise additional components that could interfere with downstream detection. It does not contain additional components to inactivate potential degrading enzymes such as RNases that may be present within a sample. As such it is not suitable for storage of samples.

**Inactivir® SDT COMPLETE** contains our proprietary inhibitor system that works to preserve samples by inactivating potential degrading enzymes such as RNases that may be present within a sample. This is at a reduced concentration compared to **Inactivir® SD COMPLETE** to improve assay compatibility.

**Inactivir® SDT** and **SDT COMPLETE** buffers allow safe handling of samples. Viral inactivation should allow safety assessments that validate limited liquid handling without the requirement for Category 2+/3 handling and use of Class 2 safety cabinets for POC and near-POC testing methods, as well as lab-based testing.

### Validation data

This buffer have been validated for LAMP detection methods for SARS nCoV-19 RNA using NEB (New England Biolabs) LAMP mastermix and published primer sets<sup>1</sup>. They are compatible with 'direct to PCR' testing for some specific manufacturer RT-QPCR assay mixes used in the detection of SARS nCoV-19 RNA

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<sup>1</sup> <https://international.neb.com/products/e2019-sars-cov-2-rapid-colorimetric-lamp-assay-kit#Product%20Information>

### QUALITY - TRACEABILITY - INTEGRITY

#### Life Science Production

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using CDC published primer sets. They are validated with a range of standard RNA purification protocols used to provide purified RNA for RT-QPCR detection using the CDC assay conditions<sup>2</sup>.

This buffer has the same inactivation components that have been validated by Public Health England. Their testing demonstrated that treatment with **Inactivir® SD LITE** using 1 volume sample to 3 volumes product for 1 and 5 minutes reduced SARS-CoV-2 titre by  $\geq 4.8 \log_{10}$  TCID<sub>50</sub>/mL, below the limit of detection of the tests.

## Product Presentation

| Product Code | Product Description                                     | Size   |
|--------------|---------------------------------------------------------|--------|
| VIB-007A     | Viral Inactivation Buffer (VIB) Inactivir® SDT          | 500 mL |
| VIB-007C     | Viral Inactivation Buffer (VIB) Inactivir® SDT          | 50 mL  |
| VIB-007E     | Viral Inactivation Buffer (VIB) Inactivir® SDT          | 10 mL  |
| VIB-007U     | Viral Inactivation Buffer (VIB) Inactivir® SDT          | 3mL    |
| VIB-008A     | Viral Inactivation Buffer (VIB) Inactivir® SDT COMPLETE | 500 mL |
| VIB-008C     | Viral Inactivation Buffer (VIB) Inactivir® SDT COMPLETE | 50 mL  |
| VIB-008E     | Viral Inactivation Buffer (VIB) Inactivir® SDT COMPLETE | 10 mL  |
| VIB-008U     | Viral Inactivation Buffer (VIB) Inactivir® SDT COMPLETE | 3mL    |

**For transport of viral swab use only. Not approved for application to humans or animals, or for use in *in vitro* procedures. Contains hazardous reagents. Please consult SDS for list of precautionary measures. Inactivation reagents should not be assumed to be 100% effective against SARS-CoV-2.**

Inactivation reagents should not be assumed to be 100% effective against SARS CoV-2.

<sup>2</sup> <https://www.cdc.gov/coronavirus/2019-ncov/lab/rt-pcr-panel-primer-probes.html>

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