



RNAassist: Next Generation Biosample Stabilisers



RNAassist

RNAassist specialises in next generation tissue fixation and biomolecule stabilisation for research applications. Their products are compatible with all biological sample types. Rapid Labs are proud to be the global supplier for RNAassist.

Biomolecule Stabilisation

Long term stabilisation of RNA, DNA, proteins and phosphoproteins

Cell & Tissue Fixation

Conserves cellular morphology of fresh & frozen tissue, compatible with GFP, IF, IHC, ISH and RNAscope imaging

Inactivates viruses, bacteria and yeast*

Allows work in lower biosecurity settings to enable safe, easy transportation of sensitive samples

Tissue Dissociation with *vivoPHIX*TM

Suitable for single-cell multi-omic analysis

Economical Advantages

Store and ship at room temperature, eliminating the need for expensive cold-chain transport

The RNAassist range consists of two products depending on your application:

*genoPHIX*TM

For projects involving large tissue samples

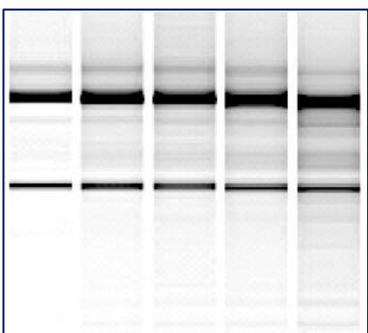
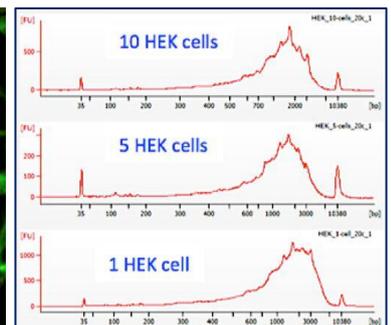
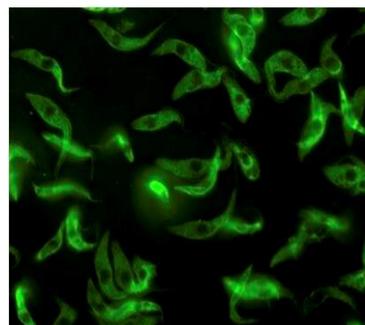
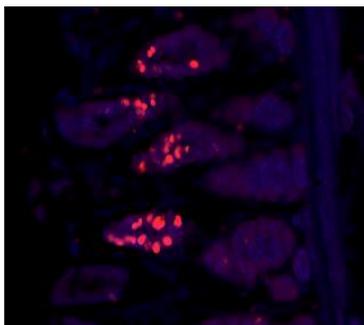
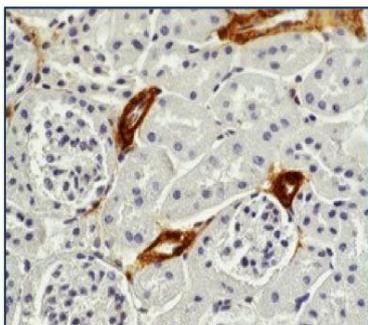
*genoPHIX*TM has been developed for work with large paraffin-embedded tissue samples. Its unique properties allow *genoPHIX*TM to extract nucleic acids from paraffin embedded tissue and is ideal for IHC, IF, FISH and fluorescent protein work.



*vivoPHIX*TM

For single cell analysis projects

*vivoPHIX*TM offers the same benefits as *genoPHIX*TM with the extra advantage of enabling dissociation of biomolecules from tissue for single cell analysis. *vivoPHIX*TM can therefore be used for downstream single-cell genomic analysis including scRNA-seq and scDNA-seq.

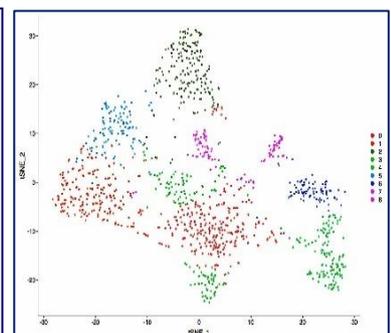


Clockwise from top left:

- 1) IHC of *genoPHIX*TM treated kidney section using anti-SMA antibody.
- 2) IF of *genoPHIX*TM treated stomach section using anti-ki67 antibody.
- 3) Gel image showing RNA stability over 25 days at 37°C with *genoPHIX*TM.

Clockwise from top left:

- 1) IF of *vivoPHIX*TM treated trypanosomes using anti-tubulin antibody.
- 2) SMART-seq2 analysis of 1,5 or 10 *vivoPHIX*TM HEK cells after 5 days storage at 4C.
- 3) scRNA-seq analysis of *vivoPHIX*TM dissociated mouse pancreas.



*Every virus tested so far with RNAassist reagents have been inactivated. Inactivation must be tested internally by the end user. Please contact us to review the full list of viruses and bacteria that have been effectively inactivated with RNAassist reagents. Treatment with RNAassist demonstrated a 3 log knockdown in *Candida albicans*.
For Research Use Only – not to be used in diagnostic procedures. The product is sold with a licence for research but not for diagnostic purposes, no liability is accepted if the product is used for such diagnostic purposes where the result is reported to the patient in breach of the Research Use Only licence.

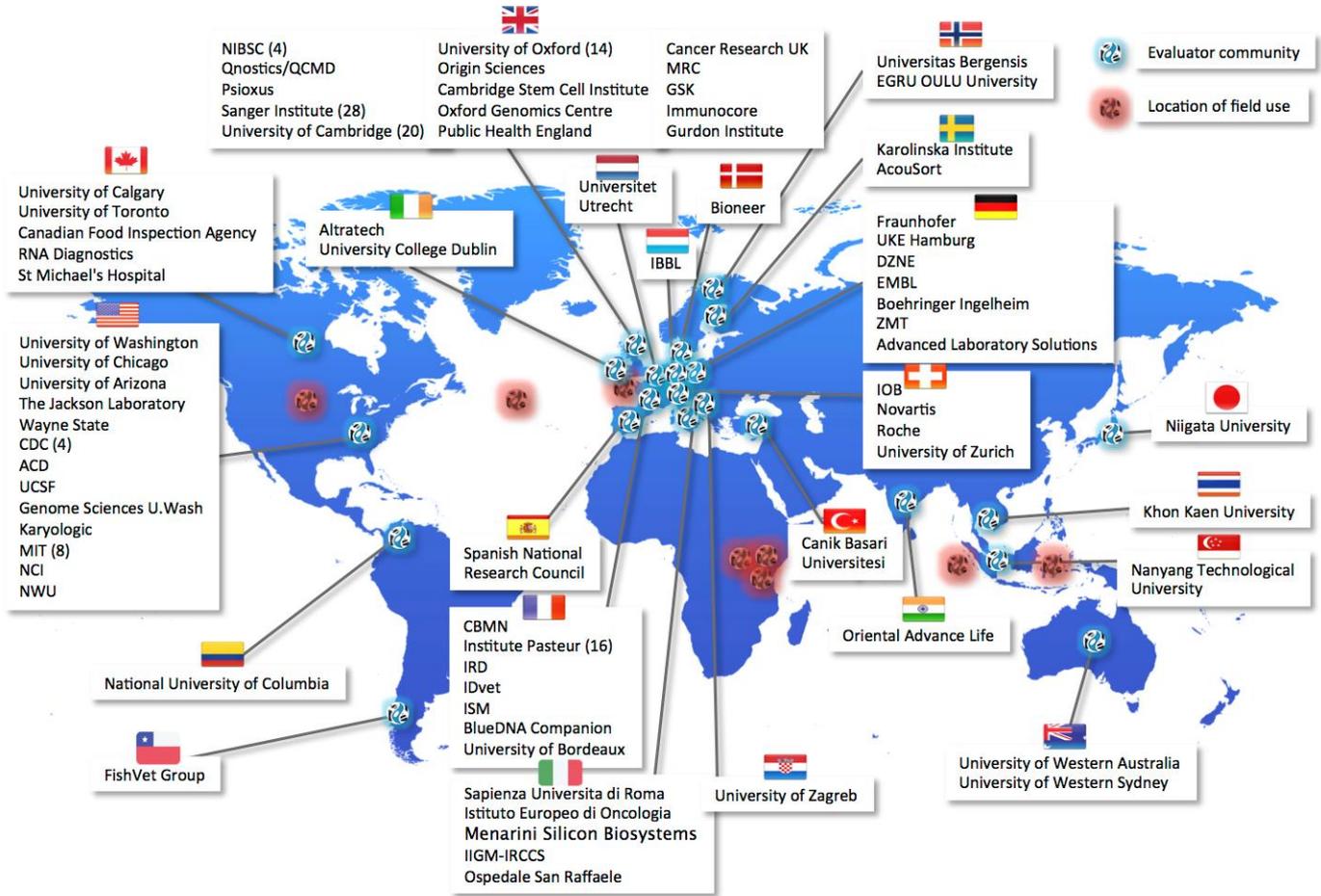


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With over 240 users and counting, get in touch now to join the RNAassist community!

Email us at rnaassist@rapidlabs.co.uk



See what our customers are saying about RNAassist:

‘RNAassist is an amazing technology with important applications for us. I haven’t been so excited about something in quite some time.’
– Canadian Food Inspection Agency

‘The FISH signals were better in RNAassist for the three probes I have tested. The big advantage is that we can avoid using the chemical fume hood with RNAassist.’
– University of Cambridge

‘RNAassist is a valid alternative fixative to both preserve tissue morphology and RNA integrity and it is recommended when alcohol-based methods cannot be used to post-fix the tissue’
– European Institute of Oncology

‘I am convinced that we have very good inactivation of the virus’ – **Pasteur Institute**

‘The RNA quality is very high. The quality was higher than the corresponding methanol fixed tumour’
– University of Oxford

‘Single cell libraries are better with RNAassist. The RNAassist sample is much purer and have more reads per cell. It’s working amazingly for my project’ – **Sanger Institute**

‘This has made clear (as expected) that we need an alternative RNA stabilisation reagent to the one we were using’
– Sanger Institute

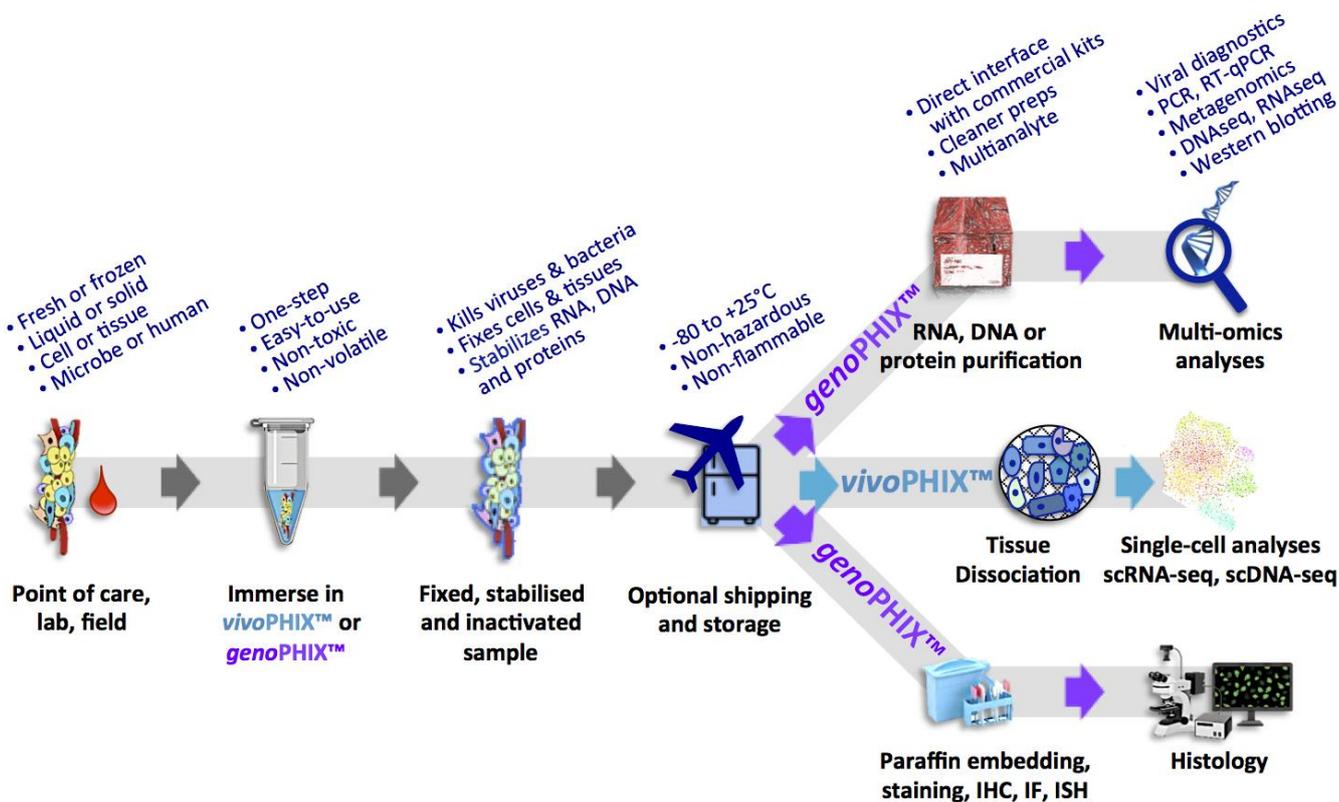
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RNAssist: Next Generation Biosample Stabilisers

Overview of *vivoPHIX™* and *genoPHIX™* workflow for integrated molecular pathology, diagnostics and multi-omics applications



Quick start RNAssist protocol for Optimised RNA stabilisation:

1. Add RNAssist reagent to cell/tissue sample (20:1 ratio of RNAssist reagent to sample)
2. Invert tube 3 times
3. Incubate for at least 20 minutes, depending on sample size and thickness
4. Remove sample from RNAssist reagent
5. Process sample as required (e.g histology, IF, IHC, RNA, DNA, protein analysis/extraction)

RNAssist Product Range

Cat. No.	Product Description	Volume
RD-GENO-1	<i>genoPHIX™</i>	1ml
RD-GENO-5	<i>genoPHIX™</i>	5ml
RD-GENO20	<i>genoPHIX™</i>	20ml
RD-GENO-50	<i>genoPHIX™</i>	50ml
RD-VIVO-5	<i>vivoPHIX™</i>	5ml
RD-VIVO-20	<i>vivoPHIX™</i>	20ml
RD-VIVO-50	<i>vivoPHIX™</i>	50ml

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Frequently Asked Questions

Unless otherwise stated, the answers to the below questions apply to both *vivoPHIX*[™] and *genoPHIX*[™] ('RNAssist reagents')

1. What sort of samples can be stabilised with RNAssist reagents?

Viruses, bacteria, parasites, animal and plants.

2. What volume of reagent to sample is required for biomolecule stabilisation?

20:1 ratio of reagent to solid samples, for liquid biopsies such as whole blood as little as 3:1 reagent to sample.

3. What sort of biomolecules are stabilised?

RNA of all types (rRNA, mRNA, tRNA and miRNA), DNA, proteins and phosphoproteins.

4. Can I use the *genoPHIX*[™] as a replacement for formaldehyde (eg NBF, formalin)?

Yes, use 20:1 reagent to tissue, allow fixation to occur and then process identically to formaldehyde fixed samples into paraffin and sectioning.

5. Are RNAssist reagents reagent toxic or carcinogenic?

No – RNAssist reagents do not need to be used in a chemical fume hood. They do not contain acids, metal salts or alcohol and has a low volatility unless heated above 50°C.

6. Do RNAssist reagents form any cross-links?

No, there is no cross-linking or aldehydes present in the reagents, this preserves biomolecule integrity.

7. What sort of applications can I use paraffin-embedded *genoPHIX*[™]-treated samples for?

All standard staining techniques such as H&E, IHC, IF, ISH and FISH.

8. Can I use RNAssist reagents with fluorescent proteins?

Yes, RNAssist reagents are compatible with all tested fluorescent proteins including GFP, RFP and mCherry. Fluorescence is maintained for about 2 hours before dissipating.

9. What is the shelf-life and what temperature should I store RNAssist reagents?

3 years at room temperature.

10. Does *genoPHIX*[™] stabilise RNA in tissue sections?

Yes, unlike FFPE sections, biomolecules are stabilised in sections and can easily be extracted for analysis.

11. What applications can I use the stabilised RNA samples for?

All applications commonly used in molecular biology including Agilent Bioanalyser and TapeStation, gel electrophoresis, spectrophotometer readings, Northern blotting, RT-PCR, RT-qPCR, RNAseq, scRNA-seq, SMART-seq2, Whole Transcriptome Amplification (WTA), ISH including RNAscope (ACD, USA), nascent transcript FISH.

12. What applications can I use the stabilised DNA samples for?

All applications commonly used in molecular biology including karyotyping, Agilent Bioanalyser and TapeStation, gel electrophoresis, spectrophotometer readings, Southern blotting, Oxford Nanopore Sequencing, PCR, qPCR, 16S NGS microbial (faecal) analysis, scDNA-seq and FISH.

13. What applications can I use the stabilised protein and phosphoprotein samples for?

All applications commonly used in a biology lab including gel electrophoresis (PAGE and SDS-PAGE), Western blotting, prion (PrP^{Sc}) detection, spectrophotometer readings, Bradford tests, crystallography, protease digestion.

14. Can I dissociate animal and human tissues using *vivoPHIX*[™]?

Yes, there is a novel reliable and efficient protocol for dissociating complex tissues into single-cells for downstream multi-omic applications including scRNA-seq. Please request the protocol.

15. Can I use the fixed cells for FACS?

Yes, both RNAssist reagents can be used for FACS, including DAPI staining and IF (individual antibodies should be tested on a case-by-case basis).

16. Do cells maintain their morphology after fixation with RNAssist reagents?

Yes, uniquely fixed individual cells or cells from dissociated tissues preserve their 3D morphological shape aiding identification of different cell types.

17. Do I need to freeze my sample after fixation?

Short-term preservation is not necessary; however the fixed sample can be stored in a fridge or frozen for longer-term storage and convenience.

18. Are fixed samples compatible with my automated RNA purification platform?

Yes, both RNAssist reagents are compatible with most purification kits (e.g RNeasy[™], QIAasymp[™], QIAcube[™], Nuclisens[™]) are compatible with fixed samples with no modifications to the manufacturer's protocol.