

Cytomark is dedicated to the development of reagents for use in flow cytometry with 25 years of experience in the industry. Our stabilisation reagent, TransFix and flow cytometry maintenance reagents are used in hospitals, reference laboratories, academic research institutions, pharmaceutical and biotechnology companies, and government agencies. Cytomark products are distributed world-wide selling in over 60 territories.

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## TransFix®

TransFix® is a stabilisation reagent that preserves cellular antigens and prevents cellular degradation in a variety of specimen types for flow cytometric analysis.



TransFix® Bulk allows for flexibility when stabilising a variety of samples which include: cerebrospinal fluid, whole blood, circulating tumour cells, lymph nodes, bone marrow, animal blood, cell free RNA and exosome isolation. It is available in both 1mL and 20mL bottles.



TransFix/EDTA Vacuum Blood Collection Tubes (TVTs) are direct draw collection tubes used to stabilise venous blood at the point of collection. 3mL and 9mL tubes are available.



TransFix Sample Storage Tubes (SST) are pre-filled with TransFix to preserve 1mL samples and do not contain an anti-coagulant.



TransFix CSF Sample Storage Tubes are specially developed for the stabilisation of CSF. Two sizes are available; a large tube to preserve 1-4mL samples, and a small tube to preserve 0.25-1mL samples for paediatric patients



Circulating Tumour Cell TransFix/EDTA Vacuum Blood Collection Tubes (CTC-TVTs) are 9mL evacuated tubes designed to specifically collect and stabilise CTCs in whole human blood.

**TransFix®**  
will help you:

- Prevent the need for repeat sample collection due to degradation.
- Reduce patient harm by avoiding repeat lumbar puncture.
- Increase efficiency by allowing sample batching before testing.
- Ensure sample integrity during transportation between clinical sites.
- Eliminate the need for weekend and evening work.

Find out more



## Flow Cytometry Essentials



At cytomark we believe that flow cytometry should be affordable. With Cytomark's Flow Cytometry Essentials, you can save on sample preparation and equipment operation so you can invest most on what really matters for your research.

Find out more



## Product Formats

### TransFix®

#### TransFix/EDTA CSF Sample Storage Tubes\*

Product Code	Description
TF-CSF-S-2	TransFix CSF 0.25-1mL Sample Storage Tube (2 tubes)
TF-CSF-S-10	TransFix CSF 0.25-1mL Sample Storage Tube (10 tubes)
TF-CSF-S-50	TransFix CSF 0.25-1mL Sample Storage Tube (50 tubes)
TF-CSF-L-2	TransFix CSF 1-4 mL Sample Storage Tube (2 tubes)
TF-CSF-L-10	TransFix CSF 1-4 mL Sample Storage Tube (10 tubes)
TF-CSF-L-50	TransFix CSF 1-4 mL Sample Storage Tube (50 tubes)

\*IVD marked in Europe

#### Circulating Tumour Cell TransFix/EDTA Vacuum Blood Collection Tubes

Product Code	Description
CTC-TVT-09-1	Circulating Tumour Cell TransFix/EDTA 9 mL Vacuum Blood Collection Tubes (1 tube)
CTC-TVT-09-2	Circulating Tumour Cell TransFix/EDTA Vacuum Blood Collection Tubes (2 x 9 mL tubes)
CTC-TVT-09-50	Circulating Tumour Cell TransFix/EDTA Vacuum Blood Collection Tubes (50 x 9 mL tubes)

#### TransFix Reagent\*\*

Product Code	Description
TFB-01-1	1 mL TransFix
TFB-01-10	1 mL TransFix (10 tubes)
TFB-01-50	1 mL TransFix (50 tubes)
TFB-20-01	20 mL TransFix

\*IVD marked in Europe

\*\*IVD marked in USA

## Flow Cytometry Essentials

#### Sample Preparation

Product Code	Description
CYTO-3001	CytoLyse Erythrocyte Lysis Solution 100mL

#### Equipment Operation

Product Code	Description
CYTO-1001	CytoSheath Sheath Fluid 20 L
CYTO-2001	CytoKleen Enzymatic Cleaning Agent 0.5 L
CYTO-2002	CytoRinse Sodium Hypochlorite Agent 5 L

#### TransFix/EDTA Vacuum Blood Collection Tubes\*

Product Code	Description
TVT-03-1*	TransFix/EDTA Vacuum Blood Collection Tubes (1 x 3 mL tube)
TVT-03-2*	TransFix/EDTA Vacuum Blood Collection Tubes (2 x 3 mL tubes)
TVT-03-50*	TransFix/EDTA Vacuum Blood Collection Tubes (50 x 3 mL tubes)
TVT-09-1	TransFix/EDTA Vacuum Blood Collection Tubes (1x 9 mL tube)
TVT-09-2	TransFix/EDTA Vacuum Blood Collection Tubes (2x 9 mL tubes)
TVT-09-50	TransFix/EDTA Vacuum Blood Collection Tubes (50 x 9 mL tubes)

\*IVD marked in Europe

\*\*IVD marked in USA

#### TransFix Sample Storage Tubes\*\*

Product Code	Description
TF-01-2	TransFix Sample Storage Tubes (2 x 1.2 mL tubes)
TF-01-10	TransFix Sample Storage Tubes (10 x 1.2 mL tubes)
TF-01-50	TransFix Sample Storage Tubes (50 x 1.2 mL tubes)

\*IVD marked in Europe

\*\*IVD marked in USA

## Contact us!

Further information, protocols, certificates of analysis, and our bibliography can be found on our website, but our team is always available to help with any questions and technical support, get in touch!



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## How to order

With a network of over 60 distributors worldwide, finding your local distributor won't be difficult, have a look!

Find your local distributor



Flow Cytometry products that maintain samples and equipment for accurate and representative results.

**TransFix®**  
&  
**Flow Cytometry Essentials**

## Intended Applications



### Cerebrospinal Fluid Stabilisation

The presence of white blood cells in the cerebrospinal fluid (CSF) is indicative of many central nervous system (CNS) diseases. The detection of leukocyte subsets in CSF is of vital importance for the accurate diagnosis and treatment of such diseases. However, low cellularity and cell viability of leukocytes causes challenges when analysing CSF with flow cytometry. This means that samples must be analysed urgently (within 1 h) which is not always possible.<sup>(1)</sup>

Transfix CSF Sample Storage Tubes have been specifically optimised in collaboration with leading oncologists for CSF stabilisation and have been recommended in guidelines for CSF sample storage, published in the British Journal of Haematology.<sup>(2)</sup>

Transfix has been shown to reduce cellular lysis after 30 minutes compared to fresh CSF and to stabilise key CSF leucocyte markers up to 72 hours.<sup>(3)</sup> The stabilisation process preserves light scatter and key antigen expression patterns, including CD3, CD4, CD8, CD19, CD20, CD45 and CD56.<sup>(4)</sup>

In addition to the many of the benefits of TransFix, the TransFix CSF Sample Storage Tubes also:

- Improve diagnostic sensitivity compared to native CSF samples analysed within 1 hour.
- Provide a more accurate diagnosis compared to untreated or RPMI-treated CSF samples (Figure 1).<sup>(4)</sup>

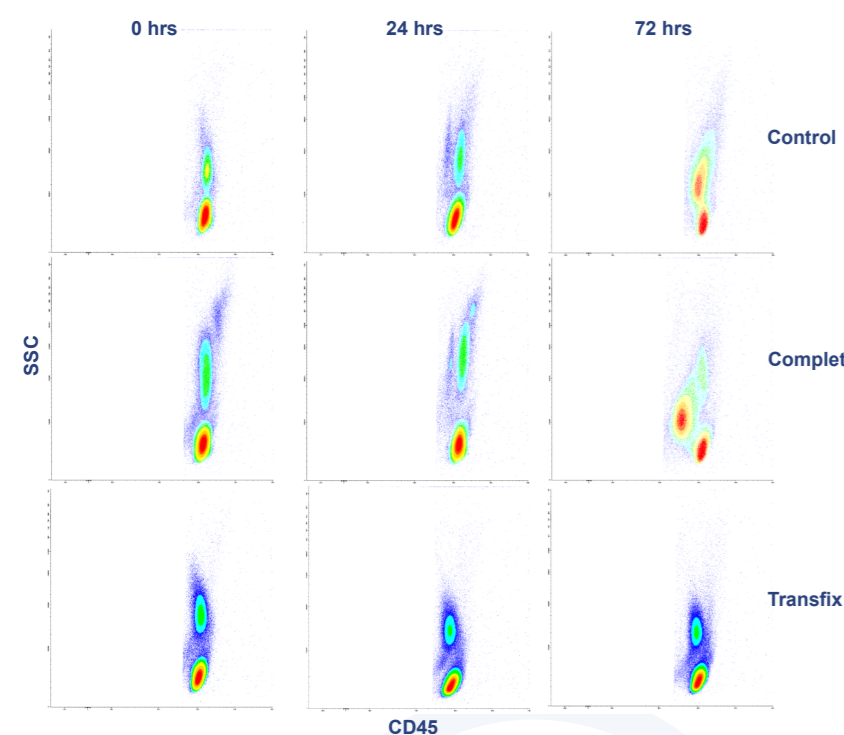


Figure 1. Immunophenotypic profile of CSF



#### References

1. de Graaf, M.T. et al. (2011). Flow Cytometric Characterization of Cerebrospinal Fluid Cells. Cytometry Part B [online] Volume 80B(5), p. 271-281
2. Johansson, U. et al. (2014) Guidelines on the use of multicolour flow cytometry in the diagnosis of haematological neoplasms. British Journal of Haematology 165: 455-488.
3. de Jongste, A.H. et al. (2014) Use of TransFix™ cerebrospinal fluid storage tubes prevents cellular loss and enhances flow cytometric detection of malignant hematological cells after 18 hours of storage. Cytometry B Clin Cytom. 86(4):272-9
4. Kaenzig, N. et al. (2022) White Paper: Evaluation of TransFix/EDTA CSF sample storage tubes compared to alternative preservation methods, Cytomark Available at: <https://www.cytomark.co.uk/2022/02/01/white-paper-evaluation-of-transfix-edta-csf-sample-storage-tubes-compared-to-alternative-preservation-methods> (Accessed: 17 September 2024).

### Whole Blood Stabilisation

Analysis on blood samples must be carried out within 48 hours of venepuncture without stabilisation. Aged blood samples exhibit indistinguishable cell subsets and inaccurate absolute cell counts, which can lead to erroneous clinical results.<sup>(5)</sup> These samples are often no longer suitable for flow cytometric examination.

TransFix preserves the cell surface antigens of lymphocyte subsets for up to 14 days at 2-8°C, and for up to 4 days at ambient temperature (18-25°C), maintaining the immunophenotypic profile of fresh blood (Figure 2).

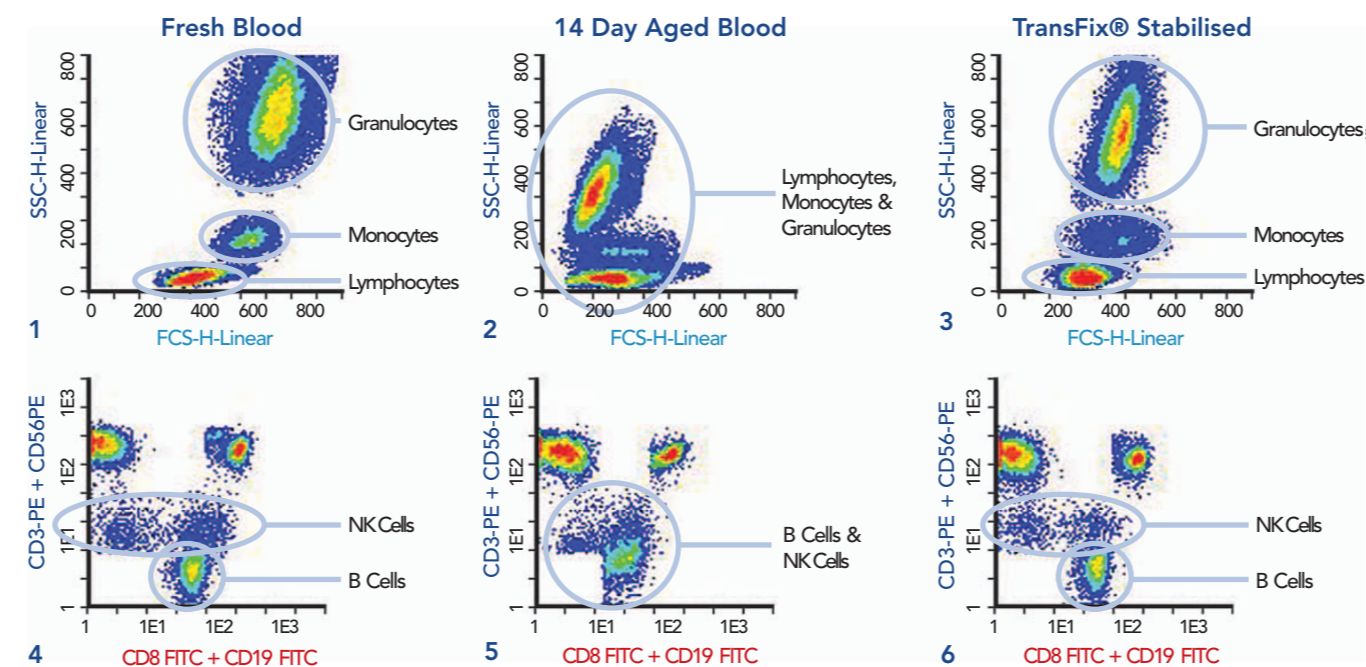


Figure 2. Immunophenotypic profile of fresh blood

TransFix is currently used to:

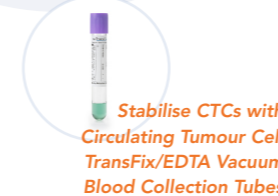
- Monitor haematological malignancies
- Immune monitoring of HIV/AIDS patients
- Batch samples for clinical trials

#### References

5. Dagur, P.K. and McCoy, Jr., J.P. (2015) Collection, Storage, and Preparation of Human Blood Cells. Curr. Protoc. Cytom. 73.5.1.1-5.1.16

### Circulating Tumour Cell Stabilisation

The number of rare circulating tumour cell populations present in patient blood is very low, making the usefulness of Circulating Tumour Cell (CTC) assessments depend upon accurate cell counts and the corresponding analysis of molecular targets. The addition of TransFix to blood samples at the time of collection has been shown to significantly extend the integrity of CTCs within the samples. This facilitates the use of novel filtration and detection systems to analyse CTCs.<sup>(6)(7)</sup>



#### References

6. Magbanua, M.J.M et al. (2015) A Novel Strategy for Detection and Enumeration of Circulating Rare Cell Populations in Metastatic Cancer Patients Using Automated Microfluidic Filtration and Multiplex Immunoassay. PLoS ONE 10(10): e0141166.
7. Dent, B.M. et al. (2016), High-resolution imaging for the detection and characterisation of circulating tumour cells from patients with oesophageal, hepatocellular, thyroid and ovarian cancers. Int. J. Cancer, 138: 206-216.

### Other Applications\*

**Bone Marrow Stabilisation:** TransFix has been shown to stabilise bone marrow samples for enumeration of mast cells and immunophenotyping of BMSCs.<sup>(8)(9)</sup> This prevents deterioration of cells prior to flow cytometric analysis, and allows researchers to complete time sensitive aspects of studies.

**Animal Blood Stabilisation:** The addition of TransFix to animal blood samples at the time of collection has significantly extended the integrity of the samples in several different species, particularly useful in immune monitoring of farming stock such as poultry.<sup>(10)</sup>

#### References

8. Sanchez-Munoz et al. (2011). Immunophenotypic Characterisation of Bone Marrow Mast Cells in Mastocytosis and other Mast Cell Disorders. Methods in Cell Biology (103): 333-359
9. Beiral et al. (2014). The Impact of Stem Cells on Electron Fluxes, Proton Translocation, and ATP Synthesis in Kidney Mitochondria After Ischemia/Reperfusion. Cell Transplantation 23:207-220
10. Seliger, C. et al. (2012) A rapid high precision flow cytometry based technique for total white blood cell counting in chickens. Veterinary Immunology and immunopathology 145:86-99.

\*Cytomark has not independently verified these research applications

## Flow Cytometry Essentials

### Sample Preparation

#### CYTOLyse

CytoLyse is intended for lysing red blood cells in human whole blood samples prior to flow cytometric analysis. The red blood cells are lysed under gentle hypotonic conditions while preserving the leucocytes for analysis.

CytoLyse is formulated for use with unstabilised and TransFix-treated samples following staining with immunofluorescent antibodies for flow cytometry.



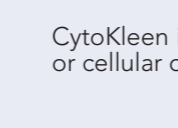
### Equipment Operation

#### CYTOsheath



CytoSheath is an isotonic phosphate buffered saline solution, essential for the transportation of cells within the fluidics system of a flow cytometer. Our formulation is azide-free making it compatible with cell sorting.

#### CYTOKleen



CytoKleen is a cleaning agent intended for rinsing and removal of residual protein deposits or cellular debris in the sample path/fluidics of flow cytometers.

#### CYTORinse



CytoRinse is a sodium hypochlorite solution for routine cleaning and decontamination of the parts of flow cytometers. This is a ready to use product, with no dilution required.