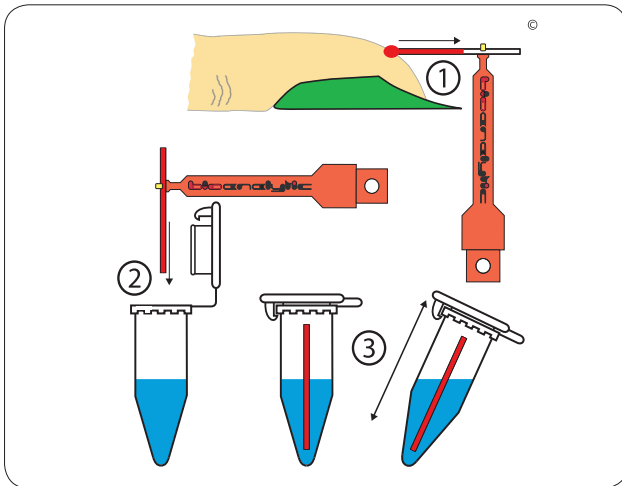




# TIC®

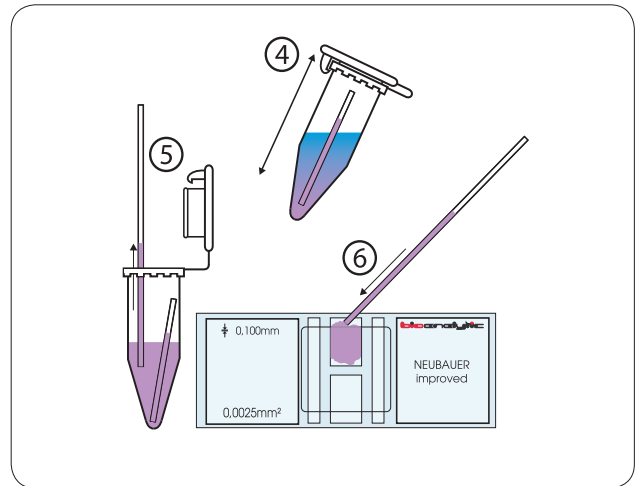
## Single Test System for Microscopic Cell Counting

Save time ... work safely ...



1. Fill end-to-end capillary with blood.
2. Place capillary into TIC tube.
3. Close tube and mix by shaking for suspending cells.

... with the "TIC" of Bioanalytic!



4. Mix before loading counting chamber.
5. Fill chamber filling capillary by capillary action.
6. Load counting chamber and count cells.

### Safe

Complete single-use tests for easy, quick, safe, and highly precise microscopic counting of erythrocyte, leukocyte, thrombocyte and reticulocytes. Tests are packed in useful rack-boxes made from CFC-free polystyrene.

### Simple

Bioanalytic manufactures ready-to-use, high-quality reagent kits that allow simple and safe handling.

No cumbersome handling of expensive equipment (graduated pipettes, shakers) necessary. Also, neither laborious, expensive cleaning and drying of blood mixing pipettes nor silicization of pipettes to prevent platelet-glass-aggregation (falsely low values!) are required.

Microscopic cell counting is performed as usual.

### Inexpensive

Save high costs of pipettes, cleaning agents, working time as well as contaminated reagents.

### Accurate

The dilutions correspond to the recommendations of the German Industry Norm 58932 (DIN 58932) and the WHO (World Health Organization), and can be accurately reproduced.

Freshly prepared samples can be counted up to 48 hours (RBC, WBC) and 12 hours (PLT) respectively.

### Hygienic

"TIC" systems of Bioanalytic are conform to the regulations issued by the Employers' Liability Insurance Association not to pipet by mouth. No contact with blood or blood-reagent mixture if used as recommended.

### Notes

#### WHO

Already in 1988, the WHO (World Health Organisation) declared the use of Thoma pipettes as **obsolete** [1], i.e. no longer state-of-the-art and outdated, because Thoma pipettes are **inaccurate** \*1) and break easily (risk of infection). Instead, use of separate pipettes for mixing blood into pre-filled reaction tubes was recommended.

The single-use "TIC" systems of Bioanalytic are completely in line with these recommendations. Ery-TIC®, Leuko-TIC® and Thrombo-TIC® had already been introduced into the market 10 years earlier (in 1978).

#### Ordering Information

The capillary holder (re-usable) is not included in the "TIC" system. We recommend ordering the capillary holder together with your first order of any "TIC" system. The capillary holder prevents risk of specimen contact if used correctly, and simplifies handling as well.

### Contacts

If you have any questions, please do not hesitate to contact us by e-mail (German, English):

Sale: [sales@bioanalytic.de](mailto:sales@bioanalytic.de)

Support: [support@bioanalytic.de](mailto:support@bioanalytic.de)

### Support

Do not hesitate to contact us with your questions by phone (German), e-mail or fax (German, English).

### Literature & Footnotes

[1] Recommended methods for the visual determination of white cell and platelet counts, WHO-report WHO/LAB/88.3, WHO, CH-1211 Genf 27. Publication (Germany): Laboratoriumsmedizin 13, Nr. 2: BDL 17 (1989).

\*1) As the inaccuracy not only relates to the volume of the Thoma pipettes but also to the procedure involved, the inaccuracy also applies to official calibrated or CE marked pipettes.

# Overview of the intended use

## General Information

For hygienic use of all "TIC" systems, we recommend our useful capillary holder.

Only **CE** and **IVD** labelled products are products and only those may be used for human diagnostics in the EU. Conversely, they may also be used for veterinary in vitro diagnostics **IVD**.

From many of our packs there are also very small packs available for 10 tests. These are particularly suitable for testing purposes in veterinary medicine.

## Eos-TIC 1 : 32 (plus)

Dilution 1 : 32. Sample volume 20 µL.

### Human medicine

Counting of eosinophilic leukocytes (eosinophilic granulocytes).

### Veterinary medicine

#### Mammals

Like human medicine.

#### Birds, reptiles and fishes

Counting of erythrocytes (RBC) and leukocytes (WBC).

## Ery-TIC 1 : 200 (plus)

Dilution 1 : 200. Sample volume 5 µL.

### Human medicine

Counting of erythrocytes.

### Transfusion medicine

Counting the remaining cells from platelet concentrates and plasmas. Special instructions (dilutions 1 : 51, 1 : 21, 1 : 11) available.

### Veterinary medicine

#### Mammals

Counting of erythrocytes (RBC).

## EryFragility-TIC

Sample volume 20 µl per dilution step.

### Human medicine

Determination of osmotic erythrocyte resistance.

## Leukocyte count of:

### Blood

(human blood, mammalian blood)  
Use Leuko-TIC 1 : 20 blue.

### Cerebrospinal fluid (CSF)

- (A) Leuko-TIC 1 : 20 blue  
(Observe special instruction for low leukocyte values).
- (B) Samson's concentrate dilution 9 : 10  
(Follow the instructions for use for cell counting in CSF).

### Synovial fluid

Only Leuko-TIC SF can be used for synovial fluid.

### Pleural, peritoneal fluid Ascites

Fluid formed between the visceral and parietal pleura (pleura) or by transudation from the peritoneum.

It depends on the particular sample and therefore has to be tested whether

- (A) Leuko-TIC 1 : 20 blue or
- (B) Leuko-TIC SF is the better choice

If no precipitates occur, (A) is our recommendation. If precipitation occurs, use (B). Samples with a lot of erythrocytes are better counted under (A). However, the acetic acid contained in (A) can form precipitates with sample components, which make counting more difficult.

### Pericardial fluid

Accumulation of fluid in the pericardium.

Leukocytes from pericardial fluid are best counted with Leuko-TIC 1 : 20 blue. If precipitates occur in rare exceptional cases, use Leuko-TIC SF.

## Leuko-TIC 1 : 20 blue (plus)

Dilution 1 : 20. Sample volume 20 µl.

### Human medicine

#### Blood

Counting of leukocytes without disturbing background shading by erythrocyte membranes. Clear image, blue-colored leukocyte cell nuclei.

The method is prescribed in Germany by the provincial chamber for the training of medical professionals.

#### Liquor cerebrospinalis (CSF)

Counting of leukocytes in the cerebrospinal fluid. For this purpose, use the special information for counting low leukocyte values.

### Transfusion medicine

Special instructions for counting low leukocyte values available.

### Veterinary medicine

#### Mammals

Like human medicine.

#### Birds and Reptiles

We recommend to use Eos-TIC or Natt-Herricks-TIC.

## Leuko-TIC SF (plus)

Dilution 1 : 100 and 1 : 21 possible.

### Human medicine

Counting of leukocytes from synovial fluid.

### Veterinary medicine

As human medicine, but only verified for mammals.

## Leuko-TIC VT

VT = Viability Test.

Dilution 1 : 20. Sample volume 20 µL.

### Human medicine

Viability counting of leukocytes (WBC) based on trypan blue staining in a specific dilution solution.

### Veterinary medicine

As human medicine, but only verified for mammals.

## Thrombo-TIC 1 : 100 (plus)

Dilution 1 : 100. Sample volume 10 µl.

### Human medicine

Counting of thrombocytes (PLT).

### Transfusion medicine

Special instructions for counting in platelet-rich plasma (PRP) available.

### Veterinary medicine

#### Mammals

As human medicine.

- Elephants and other mammals with high platelet count:  
Follow the instructions for transfusion medicine (higher dilution).

## Reti-TIC

Dilution 1 : 2 (1 + 1). Sample volume 100 µl.

Supravital staining of reticulocytes.

### Human medicine

Relative counting of reticulocytes.

### Veterinary medicine

As human medicine, but only usable for mammals.

## Sperm-TIC 1 : 20 (plus)

Dilution 1 : 20. Sample volume 20 µl.

### **Human medicine**

Counting of sperms.

### **Veterinary medicine**

As human medicine, but only verified for mammals.

## Ejaculate-TIC 1 : 20 (plus)

Dilution 1 : 20. Sample volume 20 µl.

Reagent based according to the recommendation of the WHO.

### **Human medicine**

Counting of leukocytes in the ejaculate and spermatozoa according to the regulation of the WHO.

### **Veterinary medicine**

As human medicine, but only verified for mammals.

## Samson's Concentrate (CSF)

Dilution 9 : 10 / 10 : 11; see working instructions.

No TIC system available; dilution by pipetting required. Ideal for counting very small cell counts with high accuracy.

### **Human medicine**

Counting of leukocytes (WBC) in cerebrospinal fluid (CSF).

### **Veterinary medicine**

Counting of leukocytes (WBC) in cerebrospinal fluid (CSF).

## Natt-Herricks-TIC 1 : 200 (plus)

Dilution 1 : 200. Sample volume only 5 µL.

### **Human medicine**

Not applicable/approved in the EU for human medicine!

Other countries not tested.!

### **Veterinary medicine**

Birds, Reptiles, Fish

Counting of erythrocytes (RBC) and leukocytes (WBC) .

#### LIT.:

White Blood Cell Count in Birds: Evaluation of Commercially Available Method. • B. Riond<sup>1</sup>, L. Carisch<sup>1</sup>, M. Stirn<sup>1</sup>, J.M. Hatt<sup>2</sup>, K. Federer<sup>3</sup>, R. Hofmann-Lehmann<sup>1</sup>. • 1 Clinical Laboratory, Vetsuisse Faculty, University of Zurich, Switzerland; 2 Clinic for Zoo Animals, Exotic Pets, and Wildlife, Vetsuisse Faculty, University of Zurich, Switzerland; 3 Walter Zoo AG Gossau, Gossau, Switzerland. • 2015-11.

Conclusion: Natt-Herricks-TIC<sup>®</sup> was highly precise and showed good agreement with the reference method. It can be recommended as a reliable method for determination of white blood cell counts in avian ethylenediaminetetraacetic acid blood and allows easy in-house analysis by clinicians or technicians.

## Marcano-TIC 1 : 200 (plus)

Dilution 1 : 200. Sample volume only 5 µL.

### **Human medicine**

Not applicable/approved in the EU for human medicine!

Other countries not tested.!

### **Veterinary medicine**

Counting of erythrocytes from blood of lizards, especially iguanas.

## Viability-TIC

Dilution 1 : 20. Sample volume only 20 µL.

### **Microbiology, Life Science, Research**

Viability cell counting based on trypan blue staining in a specific dilution solution.

Counting of viable cells (aCells) and dead cells (dCells) from cell suspensions. The calculation gives the total number (tCells), aCells, dCells and the percentage distribution.

## Symbols

See document "Symbols and markings of the products".

## Feedbacks

Especially in the field of veterinary medicine the results are very different due to the different species.

We are therefore looking forward to your feedback and would be happy to share your experiences with you. Feedback to: [support@bioanalytic.de](mailto:support@bioanalytic.de) (German, English).