VETERINARY MEDICINE

en

Eos-TIC® 1 : 32 (plus)

Single Tests for Microscopic WBC Count
Avian Species • Reptiles • Fish

VET-INFO Supplement information
Eos-TIC® 1 : 32 • WBCs of Avians etc.

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(en)

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These operating instructions supplement the basic information for human medical IVD [1]. Please also note the statements made there.

The information presented here relates exclusively to the reagent manufactured by us and cannot be extended to reagents from other manufacturers. We assume no responsibility for the completeness and/or correctness of the information presented here. Rather, it represents a collection of information known to us. The user is urged to check the usability for his/her purposes, especially with regard to the species to be analyzed.

Attention!

This additional information is a supplement to the product information.
It is also important to observe the information in the product information!

Reagents

Eos-TIC® intended for human diagnostics (IVD) can also be used for veterinary diagnostics.

Sample Material

Preferably, K_2- or K_3-EDTA blood; capillary blood only as an exception (process immediately). Li-Heparin is suitable, wit other salts Heparinized blood is possibly unsuitable as the salts form precipitates.

Count samples diluted with Eos-TIC® within 90 minutes. Resuspend the cells before counting.

For sample collection, storage and labeling follow the standards of technology procedures and the corresponding instructions.

Important for veterinary medicine!

It is important to ensure that the ratio of EDTA to the sample (sample tube) is not exceeded. Excessive concentration of EDTA damages the cells and can cause problems (destruction of cells) and false counts.

Therefore, use appropriate materials for blood sampling in particular small sample volumes (eg. Microtainer from Becton-Dickinson).

Reference Ranges

For species-specific reference ranges, please refer to the relevant literature.

Procedure

Sample processing as described for Eos-TIC® for use as human IVD.

Analysis / Calculation (Mammals)

Fuchs-Rosenthal counting chamber
Follow the protocol in the basic Eos-TIC® information

Analysis / Calculation (Avian species)

Various counting methods are known. Other protocols can be used if the dilution and the counting chamber volume are considered in the calculation. For deviating protocols, a validation is required.

Fuchs-Rosenthal counting chamber
Total = 16× 1 mm² = 16 mm². Depth = 0.200 mm. Volume = 3.2 µL.
Count the entire Fuchs-Rosenthal counting chamber to determine the number of eosinophilic leukocytes.

Total Cells Count	× Dilution	/ Counting volume	= Cells / µl
Total Eos count	× 32	/ 3,2	= Eos / µl Blood.
Total Eos count	× 10		= Eos / µl Blood.

Neubauer "improved" counting chamber [2]
Total = 9 × 1 mm² = 9 mm². Depth = 0.100 mm. Volume = 0.9 µL.
Count all cells in both counting grids (each 9 × 1 mm²) of the dual chamber. This This corresponds to a volume of 2× 0.9 µL = 1.8 µL.

Absolute count

Total Cells Count	× Dilution	/ Counting volume	= Cells / µl
Total Eos count	× 32	/ 1.8	= Eos / µl Blood.
Total Eos count	× 17.78		= Eos / µl Blood.

Differential Blood Count [2]

First, prepare a routine blood smear and stain it with HemaDiff [1]. Perform a differential analysis as described for human / mammalian blood in the scientific literature. Replace the heterophils for neutrophils. Write down the result.

Total WBC/µl = ((THET + EOS) × 1.1 × 16 × 100) / (%HET + %EOS)
Total WBC/µl = ((THET + EOS) × 1760) / (%HET + %EOS)

THET = Total heterophile white blood cells (WBC) from both counting grids.
EOS = Eosinophilic leukocytes from both counting grids.
%HET + %EOS = Result from differential blood count.

A direct cell counting method is preferable to relative differential blood count for accuracy reasons. As an alternative, please also consider the following recommendation.

Analysis / Calculation (Reptiles)

You can follow the above information for avian species.
There may be species-specific variations.

Analysis / Calculation (Fish)

You can follow the above information for avian species.
There may be species-specific variations.

Recommendation

For direct quantitative counting of WBCs from avians, reptiles and fish we recommend also Natt-Herrick-TIC® 1:200 plus, REF 004025.
Observe the higher dilution.

Feedback

We welcome user comments and feedback. If you have information or literature on counting for specific species, please let us know.

Literature & Footnotes

Legends for the graphic symbols and tags used follow relevant norms or are available on our internet pages.

[1] Product information Eos-TIC (IVD), Bioanalytic GmbH.

[2] Campbell, T. W. Avian Hematology and Cytology, 2nd ed. Iowa State University Press, Ames, IA 1995, Page 3...5.

*1) HemaDiff = Schnellfärbeset für Blutausstriche, Mikroorganismen und Spermatozoen. Produkt der Bioanalytic GmbH.