

# Study Blood and Blood Diseases

**ZEISS Microscopes for Hematology**



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Seeing beyond

# ZEISS Microscopes for Hematology

Hematology is the science or study of blood, blood-forming organs and blood diseases. In clinical routine, hematologists diagnose and treat blood disorders and malignancies, including types of hemophilia, leukemia, lymphoma and sickle-cell anemia.



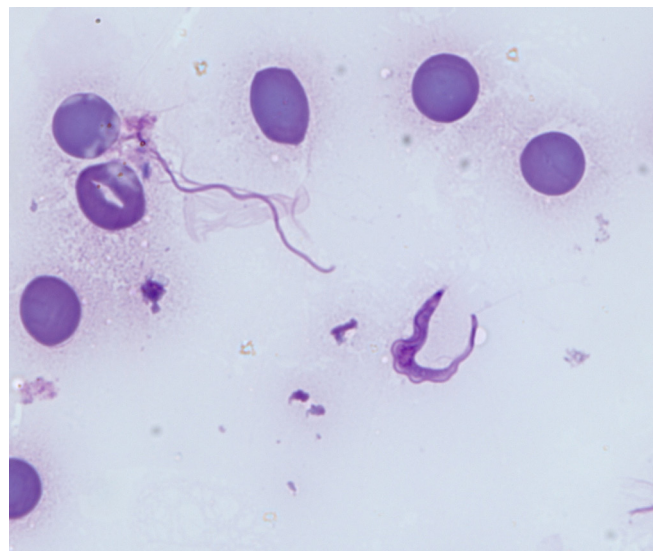
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More detailed information on components of blood, microscopic blood examination including blood smear and bone marrow examination, application examples and suitable microscope equipment in hematology can be found in the whitepaper by ZEISS on "Microscopy in Hematology".

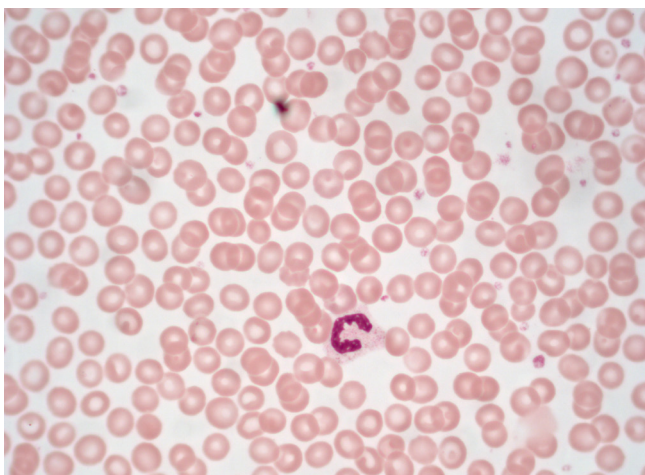
Hematologists rely on crystal-clear images to visualize morphological details such as delicate granules, Auer rods, irregularities of the nuclear membrane or clefted nuclei. Furthermore, highest color fidelity is key when examining blood smears and bone marrow preparations. Apart from brightfield microscopy, phase contrast and polarizing microscopy techniques are also used for certain types of samples. While hematological stains result in a good transparency of the sample and specific staining of cellular features, it is the optical quality of the microscope, the fidelity of the attached camera for digital documentation, and the ergonomic design of the instrument that can make all the difference when screening patient samples.

## Microscope Requirements for Hematology – Your Checklist

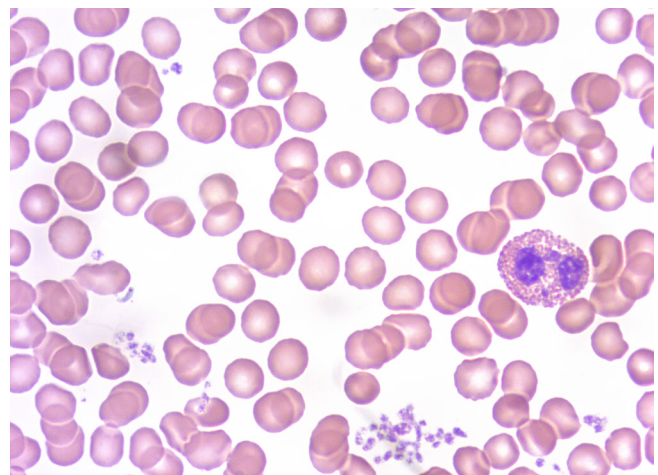
- Different contrasting techniques such as brightfield, phase contrast or polarization.
- Ergonomic design with all microscope controls easy to reach.
- Digital documentation with microscope camera.



*Trypanosoma brucei gambiense* parasite in human blood smear. Giemsa staining.






*Neutrophil granulocyte in brightfield.*



*Eosinophilic granulocyte in brightfield. Courtesy of G. Spengler-Schulz, Alexander Fleming School, Stuttgart, Germany*

# Recommended Microscopes

	ZEISS Primostar 3	ZEISS Axiolab 5	ZEISS Axioscope 5
Microscope			
Key users	Use this rugged and compact routine microscope to advance your teaching and training or your clinical laboratory routine.	Smart microscope for clinical laboratory – a single button for crisp images in true color, already with the correct scaling information.	Smart clinical and laboratory microscope – above and beyond, option to acquire fluorescent images consisting of up to four different channels.
Suggested	<b>Fixed Koehler package</b> ■ 415501-0071-000 <b>Or Full Koehler package</b> ■ 415501-0091-000	■ 490980-0004-000	■ 490040-0043-000
Condenser	■ Abbe condenser 0.9/1.25	■ Condenser, achromatic-aplanatic 0.9 H	■ Condenser, achromatic-aplanatic 0.9 H
Objective	■ iPlan-Achromat 4x/0.10, 10x/0.25, 40x/0.65  Option for ■ iPlan-Achromat 50x/1.0 Oil D=0 ■ iPlan-Achromat 100x/1.25 Oil D=0	■ Objective N-Achroplan 10x/0.25 ■ Objective EC Plan-Neofluar 63x/1.25 Oil  Option for ■ Objective N-Achroplan 50x/1.0 Oil ■ Objective N-Achroplan 100x/1.25 Oil CG=0	■ Objective N-Achroplan 10x/0.25 ■ Objective Plan-Apochromat 63x/1.4 Oil  Option for ■ Objective N-Achroplan 50x/1.0 Oil ■ Objective N-Achroplan 100x/1.25 Oil CG=0 ■ Objective Plan-Apochromat 100x/1.4 Oil
Camera	ZEISS AxioCam 208 color	ZEISS AxioCam 208 color/ZEISS AxioCam 305 color	

## To complete your microscope system we additionally recommend:

- **ZEISS Labscope Fast Panorama module:** With Fast Panorama you turn your manual microscope into a whole slide imaging system. By manually moving the stage of your microscope, images of the sample will be stitched together automatically into a panorama microscope image. It is your perfect choice if you have to scan whole slide image (WSI) occasionally.
- **Barcode scanner and foot pedal for routine usage:** Your smart microscope from ZEISS lets you assign microscope images with the correct scaling information to barcode-labelled samples. Just use an Axiolab 5 or Axioscope 5 microscope with Windows PC or iPad, connect a barcode reader to your AxioCam 208 color camera and start.
- **Twain driver plugin for ZEISS AxioCam 202 and 208 microscope cameras:** With TWAIN, the standardized interface you can control camera and image acquisition. TWAIN plugin opens a simple camera graphic user interface (GUI) within any TWAIN compatible app and allow you to snap images with ZEISS AxioCam 202 or 208 microscope cameras.
- **Multidiscussion microscope systems for consultation:** Imagine you have an interesting structure in your pathological sample, where you need a second opinion or advice. You simply add additional tubes and respective carriers to your microscope.

Cover image: Histological section – Red: CD61. Blue: nuclear counterstaining. Brightfield.



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