

FREQUENTLY ASKED QUESTIONS

Q1. Are there any microscope requirements or restrictions?

A1. Your microscope should be configured for transmitted light illumination of the specimen. Datacolor CHROMACAL works independently from the microscope hardware and can be used with any manufacturer's microscope system.

Q2. Does Datacolor CHROMACAL work with any camera?

A2. A scientific grade camera is recommended for image acquisition. Most consumer-grade cameras are intended for landscape and portrait imaging. Also, pixel sizes in a scientific grade camera are optimized for microscope level resolutions. Datacolor CHROMACAL requires raw TIFF images for calibration.

Q3. Is white balancing sufficient to standardize the color of my images?

A3. Although white balancing is a necessary step in calibrating color, it is not sufficient. Datacolor CHROMACAL utilizes a standardized color matrix to establish and apply a color profile to white balanced images. With these capabilities, color can be standardized throughout your lab, and among your facilities.

Q4. Do I have to use a calibrated display?

A4. To achieve a consistent viewing and communication experience, it is highly recommended to calibrate all of the monitors that are used to display your specimen images.

Q5. Can I use Datacolor CHROMACAL on more than one microscope or monitor?

A5. The Datacolor CHROMACAL monitor calibration set provides three workstation installations, so you may want to calibrate the monitor at your microscope, at your analysis workstation and at your desk. Monitor calibration sets are also available separately, and they also include 3 installation licenses. The Datacolor CHROMACAL application software can only be installed on one computer, and additional licenses are available through the software. The Datacolor CHROMACAL calibration slide is highly portable and can be used on any microscope.

Q6. Does Datacolor CHROMACAL alter my original image file?

A6. No, your original image file is preserved. All calibration adjustments are made to a duplicate copy of your original image file. This copy is saved using the naming convention "[original file name] ChromaCal-calibrated" added to the file name.

Process

Good microscopy practices are essential to achieving quality images. Here are a few things to remember. These steps won't guarantee perfect images, but they reduce the number of variables to address in downstream image analysis.



- Always be certain to clean the microscope of dust and oils as these can create artifacts and aberrations.
- Establish Koehler illumination as a matter of routine — this practice sets an illumination baseline for consistency and reproducibility.
- Use a scientific-grade camera (CCD or CMOS), not a consumer camera, for imaging. Scientific cameras are designed for sensitivity and the magnifications employed by microscopes.
- Always white balance the camera. Simply move to a region of the slide where no specimen is located (e.g. white background) and choose white balance in the camera software, imaging software or even by pressing a white balance button on the camera head itself, if present.

System Requirements

- Windows XP 32/64, Win7 32/64, Win8 32/64, or Mac OSX (10.6 or higher)
- USB connection
- Monitor resolution 1024x768 or greater
- 16-bit video card (24-bit recommended)
- 128MB available RAM; 100MB available hard disk
- Unaltered TIFF images acquired with scientific-grade camera
- For maximum workflow efficiency, internet connection required

Ordering Information

EMS Cat No.	Description	Qty.
10-1010	CHROMACAL Color Calibration System*	each
10-2010	CHROMACAL Color Calibration Slide	each
10-3010	CHROMACAL Monitor Calibration Set	each

*Includes both the image calibration software (a license to install on one workstation) as well as the monitor calibration set (a license to install on three workstations). Additional workstation installations can be purchased and activated directly through the software.

*Color calibration slide must be purchased separately.

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Electron Microscopy Sciences
P.O. Box 550 • 1560 Industry Rd.
Hatfield, Pa 19440
Tel: (215) 412-8400
Fax: (215) 412-8450
email: sgkcck@aol.com
or stacie@ems-secure.com
www.emsdiasum.com

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FOCUS ON EMERGING TECHNOLOGY

Datacolor CHROMACAL™ Color Calibration System for Optical Microscopy

A Calibration Standard for Brightfield Images



FOCUS ON EMERGING TECHNOLOGY Datacolor CHROMACAL™ Color Calibration System

OVERVIEW:

The CHROMACAL™ system is an innovative new solution that enables researchers, scientists and technicians to establish and preserve the color integrity of their digital transmitted, brightfield microscopy images.

Datacolor CHROMACAL integrates three components to establish a color profile for the microscopy system:

- Proprietary software
- Color calibration microscope slide
- Computer monitor calibration sensor

Together, the Datacolor CHROMACAL system establishes a color profile for the microscopy system and applies that profile to your specimen images to ensure consistent and reliable color representation. The outcome is improved comparability of images and enhanced communication and collaboration for better decision making.

APPLICATIONS*:

Datacolor CHROMACAL is suitable for any specialty that utilizes brightfield images:

- Agriculture/Botany
- Bone Metabolism
- Cytology
- Dermatology
- Forensics
- Hematology
- Histology
- Material Science
- Pathology
- Neuroscience
- Veterinary
- and others

* Datacolor CHROMACAL is not intended for clinical diagnostic use in the U.S.

**Electron
Microscopy
Sciences**

A Calibration Standard for Brightfield Images

KEY FEATURES:

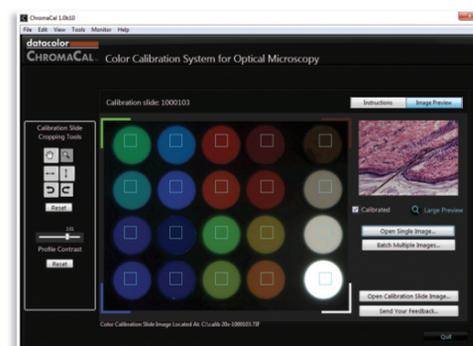
- Standardizes color reproduction in digital brightfield images
- Delivers consistent, reliable basis for evaluation, communication, quantification, documentation and publication
- Performs image and monitor calibration for consistency throughout the imaging process
- Compatible with most microscopes, scientific cameras and acquisition software

Datacolor CHROMACAL easily integrates into your microscopy workflow. Simply acquire your specimen images and an image of the calibration slide. Launch the Datacolor CHROMACAL software, select the calibration image, and apply the calibration to any or all of your specimen images. All original images are preserved, and "ChromaCal-ibrated" images are saved separately.

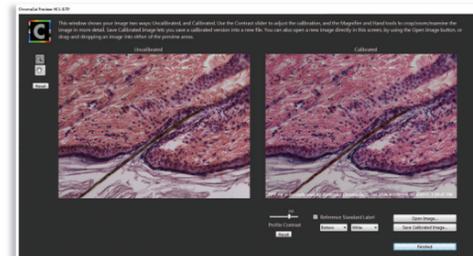
Datacolor CHROMACAL Color Calibration System for Optical Microscopy

The Datacolor CHROMACAL color calibration system for optical microscopy provides a color profile foundation from which images can be more easily compared and analyzed. Working with your existing microscope and imaging system, the calibration system fits easily into the imaging workflow — simply acquire an image of the calibration slide (required, and available separately) and using the proprietary software, apply the calibration to your specimen images. Your original files are preserved, and a complete audit trail is saved in the metadata of the calibrated images. Better consistency. Higher confidence. Color integrity for better decision making.

Includes both the image calibration software (a license to install on one workstation) as well as the monitor calibration set (a license to install on three workstations). Additional workstation installations can be purchased and activated directly through the software.



Align Calibration Matrix

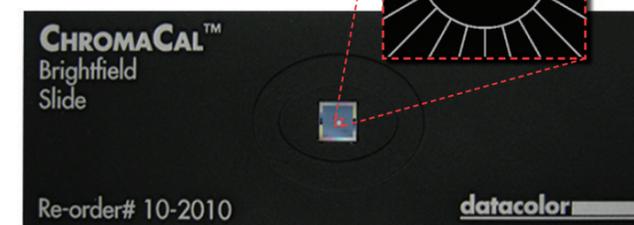


Single Calibration



Batch Calibration

Calibration Slide



Datacolor CHROMACAL Calibration Slide for Brightfield Microscopy

The Datacolor CHROMACAL brightfield calibration slide is a unique tool that is used in conjunction with the Datacolor brightfield microscopy calibration system and your microscope to establish a baseline color profile that is unique to your imaging system. The process is simple — acquire your specimen images and an image of the calibration slide. Using the proprietary CHROMACAL software just click to apply the color profile to your specimen images for a standardized approach to seeing colors.

The Datacolor CHROMACAL Brightfield Calibration Slide is sold separately, and is required for the Datacolor CHROMACAL Color Calibration System.

Datacolor CHROMACAL Monitor Calibration Set

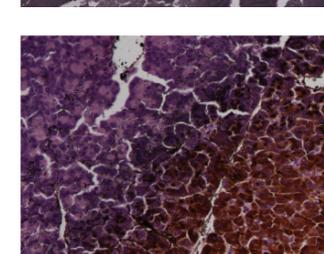
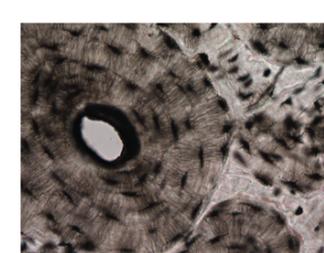
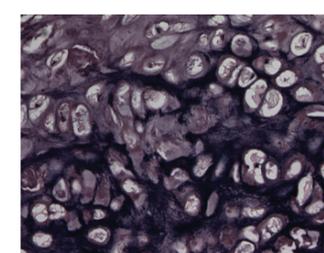
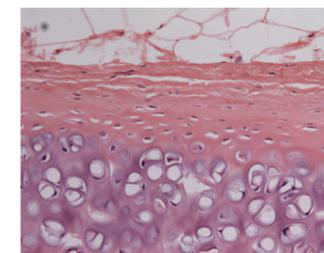
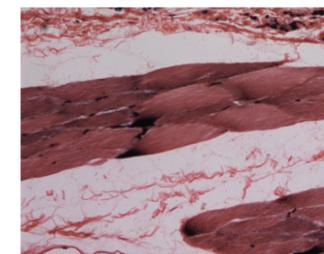
The Datacolor CHROMACAL monitor calibration set uses a precision color sensor to ensure a consistent and standardized color profile on any computer display. With monitor calibration, your images will look the same on the display by your microscope, at an analysis workstation, on your laptop, and on a colleague's display whether down the hall or across the ocean. In contrast, just look at the variability between televisions on display in an appliance store.

Includes monitor calibration sensor, software and license to install on three workstations. Additional workstation installations can be purchased and activated directly through the software.

Monitor Calibration Sensor in use



Before CHROMACAL



After CHROMACAL

