

Microscope Specifications Data Sheet

This document describes the hardware and software microscope specifications needed for imaging Pinpoint FISH™, dGH in-Site™, and dGH SCREEN™ assays. Not all the assays require all the components, and those differences will be indicated alongside each listed requirement.

Light source.

Broad spectrum white light source or multiple LED and/or laser sources.

Light filters / Filter cubes.

Light filters are required which are compatible with the fluorophores (probe color labels) being used.

Fluorophore	Excitation/Emission (nm)
Atto425 / Aqua	436 / 485
6-FAM / Spectrum Green	490 / 525
Atto550 / Spectrum Orange	555 / 576
Texas Red	595 / 620
Atto643 / 647 / Cy5	643 / 669

Objective Lenses.

High numerical aperture (recommend 1.4 NA), high magnification (minimum 60X) oil immersion objective (recommend 100X.)

Camera.

Monochrome CMOS or sCMOS.

Automated scanning systems.

Considering Automated Scanning vs. Manual Systems

There are two scenarios where use of an automated scanning system is recommended. The first is when there is a need to capture images for more than a few dozen cells, especially when the assay being analyzed is multicolor. The second is if the assay includes a combination of fluorescent labels for which there aren't good multicolor light filter options. Manual analysis of such an assay may require the analyst to change filters frequently, reducing efficiency.

Automated Scanning System Manufacturer Options

Applied Spectral Imaging (ASI) and Metasystems supply excellent systems for metaphase-focused fluorescence image capture. For this reason, KromaTiD principally uses ASI scanning stations built around Zeiss Axios systems. One additional advantage ASI's platform offers is that the user is able to create customized sets of scanning instructions for the system, yielding the versatility to handle many different scanning scenarios.

Olympus and Leica are two other large manufacturers of slide scanning systems. Each supplier's systems have different features in terms of hardware and software. They may also have unique discount bundling options for purchasing specific software tools as a package. The best scanning system will depend on the scientific needs of the project at hand. Sample type, total image target number, cell cycle stage, and how much day-to-day variation is expected are some of the variables that must be taken into consideration.

Technical Support.

KromaTiD is your research partner, and we want to see you set up for success. Please contact us for microscopy technical support by emailing techsupport@kromatid.com.