

Zeiss Axio Scan.Z1

Location: HSC (Building 586) Room 60



The Zeiss Axio-Scan.Z1 is a fast and flexible slide scanner that digitizes specimens to produce high-quality virtual slides. In addition to brightfield slide scanning, the Axio-Scan.Z1 uses LED lights to scan up to nine fluorescent channels. Up to 100 slides can be loaded onto the scanner, making it suitable for large projects, including digital archives. Scanned images are saved as CZI files and can be viewed using Zeiss freeware Zen-lite or third-party image analysis programs.

Main features of Axio Scan.Z1:

- Holds up to 100 slides.
- Able to image both bright-field (e.g. H&E slides) and up to nine-colour fluorescent samples.

- Image areas can be detected automatically or marked out, to form montages of the whole sample, or multiple samples on each slide
- Setup wizard to guide users through optimising image acquisition and autofocus parameters.
- Once setup, the system can be left for unattended automated scanning e.g. overnight

Light Sources:

In addition to an internal lamp for brightfield imaging, the Axio Scan.Z1 has an X-Cite 120LED source for fluorescent imaging.

Filter cubes for LEDs:

The scanner has a 10 position filter turret to fit most fluorophores. The Zen profile wizard is used to pick filter to match your imaging needs. Alternate filter cubes can be installed for specialty applications. Please consult with Cell Imaging staff for consultation and assistance.

| Filter Position | Excitation (nm) | Emission (nm) | Typical Fluorophores | Opal Dye |
|-----------------|-----------------|---------------|----------------------------|----------|
| 1 | empty | empty | Brightfield | |
| 2 | 325-375 | 435-485 | DAPI | |
| 3 | 426-446 | 465-495 | Cyan, Protein | 480 |
| 4 | 480-500 | 510-530 | Alexa Fluor 488 | 520 |
| 5 | 510-530 | 540-560 | Alexa Fluor 489 | 540 |
| 6 | 538-562 | 570-640 | HE, DsRed, Alexa Fluor 555 | 570 |
| 7 | 568-592 | 610-640 | Alexa Fluor 568 | 620 |
| 8 | 610-630 | 645-675 | Alexa Fluor 660 | 650 |
| 9 | 625-655 | 666-715 | Cy5 | |
| 10 | 650-680 | 695-755 | Alexa Fluor 680 | 690 |

Objectives:

| Objective | Magnification | Immersion | Numerical Aperture | Correction Ring | Coverglass (mm) | Working Distance (mm) |
|----------------------|---------------|-----------|--------------------|-----------------|-----------------|-----------------------|
| EC Plan-Neofluar M27 | 2.5X | Air | 0.085 | | 0.17 | 8.8 |
| Fluor M27 | 2.5X | Air | 0.12 | | 0.17 | 8.7 |
| Fluar M27 | 5X | Air | 0.25 | | 0.17 | 12.5 |
| Plan Apo M27 | 10X | Air | 0.45 | | 0.17 | 2.1 |

| | | | | | | |
|-------------------|-----|-----|------|--|-----------|------|
| Plan Apo M27 | 20X | Air | 0.8 | | 0.17 | 0.55 |
| Plan Apo Korr M27 | 40X | Air | 0.95 | | 0.13-0.21 | 0.25 |

Revision #4

Created 15 November 2023 21:53:48

Updated 20 March 2024 19:28:47