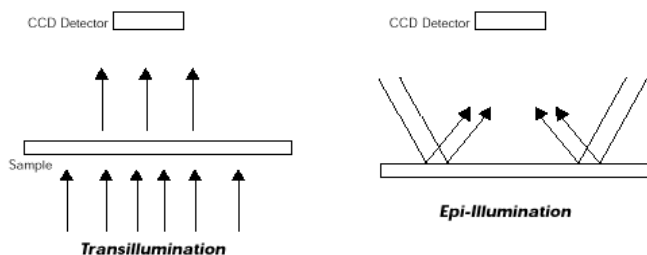


UV Epi-illumination versus transillumination Which type should I use?

Syngene image capture systems offer the flexibility of using both transmitting and epi (reflective) visible and ultra violet (UV) light sources. Often confusion can arise as to which one is best for which application.



Transillumination

Involves transmitting an energy source (e.g. UV or visible) through your sample. This generates contrast (absorption) for visible light applications such as protein gels or film imaging; or excites fluorescence energy by UV to cause a visible emission e.g. ethidium bromide. For most current applications, transillumination will provide the best results.

Most imaging system configurations allow for transillumination sources to be very close to the sample (less than 1") but require the epi-illumination source to be located a further distance away (more than 5") due to optical path constraints. The increase in energy transfer over a shorter distance provides improved contrast and absorption for visible light applications and improved excitation for fluorescence applications. Subsequently this leads to increased sensitivity and contrast as the transillumination source has 25 times more intensity.

Epi-illumination

Involves reflecting an energy source (e.g. visible light or UV) off the sample to generate contrast (absorption) for visible light applications e.g. colorimetric membranes (opaque); or exciting by UV of fluorescence energy, causing a visible emission e.g. SYBR® green. Certain samples that are not translucent or transparent, e.g. colorimetric blots or TLC plates, can **ONLY** be imaged using epi-illumination.

Syngene reserves the right to amend or change specifications without prior notice. This Application note supersedes all earlier versions.

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