

Does CoolLED's precisExcite[®] have the power?

CoolLED's patent pending technology combined with the latest evolution of LEDs means that they provide the most intense LED source for microscopy currently available. It is estimated that anyone who uses a 100W mercury bulb for longer than 50 hours will easily adapt to the CoolLED unit, and if a 50W mercury bulb is used, the CoolLED unit is more intense than a new bulb in the U.V. and blue excitation wavelengths.

Given the amazing developments in sensitivity and resolution of modern **digital cameras**, the main issue for a light source is often **stability** rather than **intensity**. This is where the CoolLED fluorescence unit outshines any mercury based system. The **intensity** variation from a COOLED unit is significantly less than 1% from one day to the next, one week to the next, and even one year to the next. Remember that a typical mercury based system will vary by up to 20% on a day to day basis, and will lose 50% of its fluorescence after only 100 hours of use. If you perform time-course experiments or simply compare samples from one day to the next, then the CoolLED system will **reduce** the **variation** in your data, leading to fewer experiments needed for significant data and an ability to resolve smaller fluorescence changes in your samples.

The COOLED system requires no bulb alignment, so it always provides the maximum intensity available. This cannot be said for a mercury based system, especially in a multi-user environment where constant 'tweaking' can be necessary to provide the best intensity.

The power of individual excitation wavelengths can be accurately controlled with a CoolLED unit without N.D. filters. This means that switching between wavelengths no longer risks accidental bleaching.

Do you have more than one microscope in your lab? Only CoolLED can guarantee that the fluorescence intensity on all of your microscopes is within 1%. This means that individual projects are no longer tied to one microscope, providing an environment for more efficient equipment use.

Is there ever a time when precisExcite[®] would not be recommended for use? If your research requires you to look at extremely weak red emission such that you are unable to use a mercury bulb with more than 30-50 hours of use, then the unit may not be for you. However, LED technology is developing rapidly and it is likely that more powerful LEDs will be available in the future. Of course, source stability is still a very significant issue, so the CoolLED unit combined with longer camera acquisition times should result in more consistent data – and better quality images.

I would recommend all fluorescence microscopists request a demonstration of the precisExcite[®] unit on your own microscope with your samples. I believe the advantages of stability, longevity and safety massively outweigh any possible loss of intensity. Try it – you might like it!

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