QC Manuals: FAs and Red Ink

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Our quality control lab was troubled with a spate of FAs and IFAs that had extreme autofluorescence–or so we thought. Negative cells ranged in color from dull orange to olive-drab with sufficient brightness to make the apple-green specific fluorescence difficult to observe. Particularly puzzling was that this supposed autofluorescence was intermittent in the QC lab and was not happening in our other labs. After much hair-pulling and tinkering, we discovered that it only happened when we used a red lab marker to mark the slides. Further, we discovered that it only happened if the writing in red ink on the frosted edge of the slide was submerged in the soaking buffer. We presume that there is an orange-fluorescing dye in the red ink that rapidly and efficiently stains cells. Apparently, only minute quantities of the dye are necessary to stain the cells as there was no visible leaching of the written ink. We have traditionally used black lab markers to mark slides and have experienced no problems with these, regardless of whether the ink was submerged in the soaking buffer. We report this incident not only to warn our customers against using red lab markers on FA slides, but also to demonstrate the sort of minute factors that can affect any laboratory process. A zany red lab pen put our QC lab in a quandary for several weeks. When things stop working, it is necessary to look for any change in procedure, no matter how seemingly trivial.