Rock Imager 2 UV Imaging

<http://www.formulatrix.com/demosite/protein-crystallization/products/rock-imager-2/index.html#tabbed-nav=tab4>

**Determine if Your Crystal is Protein or Salt with Ultraviolet (UV) Imaging**

The UV imaging option allows you to easily differentiate between protein and salt crystals. Protein crystallization drops are illuminated with UV light and the fluorescence generated from aromatic amino acids like tryptophan are detected to create an image.

The UV imaging option is built into our Rock Imager line. Each model contains all of the automated features, including automated imaging, extended focus imaging, and regions of interest. Our UV imaging solution uses 100% UV optimized components: UV grade optics, UV sensitive camera, and UV lighting. This combination of features is critical for achieving the best image quality and highest imaging speed possible.

**Quickly Find Your Crystals**

In Rock Maker you can scan your plate to locate crystals in as little as 3 minutes. Click the button below to see how much easier it is to scan for crystals in a plate imaged in UV light.

**Implement UV Imaging Without Sacrificing Visible Image Quality**

The UV imaging scope is built-in as a separate microscope assembly adjacent to the visible imaging optics so that both designs can be optimized for the specific wavelengths being used. The color camera and 12x continuous zoom optics are incompatible with UV light, so colored imaging, continuous zoom and regions of interest would no longer be available if visible and UV were combined into one path.

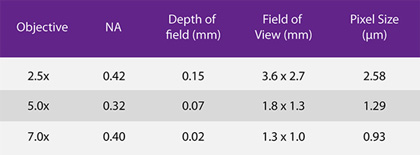
Our solution is to use two uniquely optimized, adjacent light paths so that no sacrifices are necessary. Precision stages move the sample from one microscope to the other with precise registration between the two images. This dual light path solution also allows us to properly correct for chromatic aberrations, which cannot be accomplished using a single path configuration.

**Rely on Autoscoring to Quickly Find Your Crystal Hits**

UV images are autoscored allowing you to quickly find your crystals without examining numerous empty drops. An advanced proprietary algorithm analyzes intensity, sharpness, edges and objects to accurately score your drops as positive or negative hits. Clear drops, even if they are highly fluorescent, will be classified as negative hits, reducing time spent viewing images.

note: press **esc** or click **X** button on top to exit

**Visualize Microcrystals with High Magnification Objectives**

[](http://www.formulatrix.com/demosite/images/products/riuv/features/img6.jpg)

Rock Imager UV comes in two zoom options: Fixed Zoom and Compound Zoom. The Fixed Zoom option is available with one of the lenses listed in the Table to the left. The Compound Zoom option includes all three lenses on a motorized wheel.

UV optimized optics provide high contrast images allowing the detection of crystals as small as 2 μm. In the UV image to the left, individual protein crystal needles 2 μm wide are visualized. The UV LED and condenser lens is positioned to maximize the intensity of the UV illumination in order to boost the protein fluorescence signal strength. Also, the average RMS contrast (standard deviation of the pixel intensities) is optimized to increase visibility of fluorescing crystals.