Rock Imager 1000 SONICC Key Features

<http://www.formulatrix.com/demosite/protein-crystallization/products/rock-imager-1000/index.html#tabbed-nav=tab5>

**SONICC: An Advanced Protein Crystallography Imaging Technique**

Second Order Nonlinear Imaging of Chiral Crystals (SONICC), definitively identifies chiral crystals and easily discerns between protein and salt crystals. The stark black background of SONICC makes it very easy to visualize crystals including extremely thin ones, microcrystals (<1 µm), and optically obscured crystals like those buried in birefringent LCP. This advanced technology for protein crystallography imaging has proven to be extremely successful in the major pharmaceutical and academic research labs worldwide. SONICC was invented by Garth Simpson at Purdue University and is exclusively offered by Formulatrix.

**Find Crystals You Would Have Missed Bbefore**

The unique imaging properties of SONICC allows crystal detection in almost any optical environment including opaque and turbid environments. Only chiral crystals, such as proteins, produce a signal using second harmonic generation. This allows the user to identify very thin protein crystals, as seen to the left, or those buried under precipitant.

**Sub-Micron Crystal Detection**

With the use of high N.A. objectives, SONICC can detect nano-crystals. Small crystals that may be indistinguishable from precipitant can be clearly differentiated as shown in the image to the left. This positive hit provides a condition for further optimization that may have been missed without SONICC. SONICC also allows superior imaging in LCP where small crystals are commonly found.

**Easily Distinguish Salt Crystals from Protein Crystals**

The UV-TPEF (UltraViolet Two Photon Excited Fluorescence) mode is analogous to traditional UV fluorescence and creates images based on the fluorescence of UV excited amino acids such as tryptophan. UV-TPEF is a multiphoton imaging technique and therefore uses longer wavelengths of excitation versus traditional linear imaging. This provides significant advantages including compatibility with more plates, less damage to your protein and confocal imaging.