Supplementary material

Special proteins

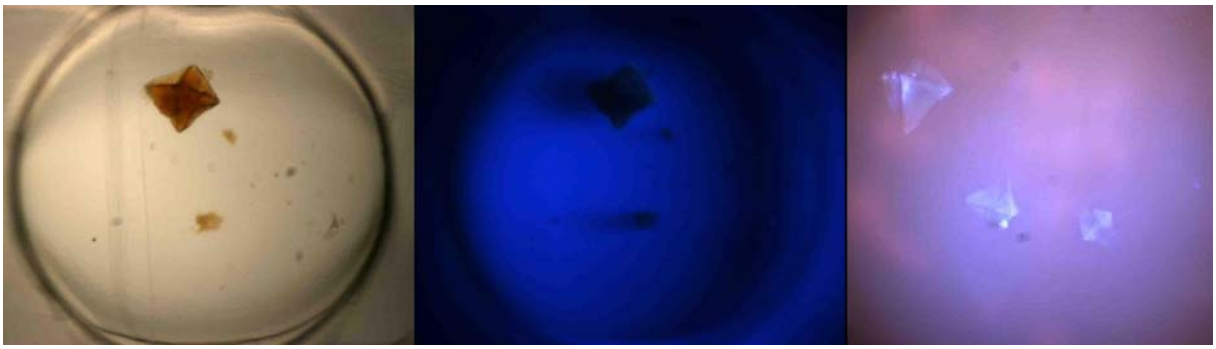

Figure 1

Figure 1 left shows ferritin crystals in a Greiner 288 lbr plate illuminated with white light. When the well is illuminated with UV light, the ferritin crystals appear dark because the background fluorescence is actually stronger than the intrinsic fluorescence of ferritin itself. After changing the excitation spectrum by inserting an additional short pass filter with 320 nm cut-off wavelength even the ferritin crystals showed intrinsic fluorescence when longer exposed and can thus be identified as protein crystals and distinguished from salt crystals.

Linbro plates

Figure 2

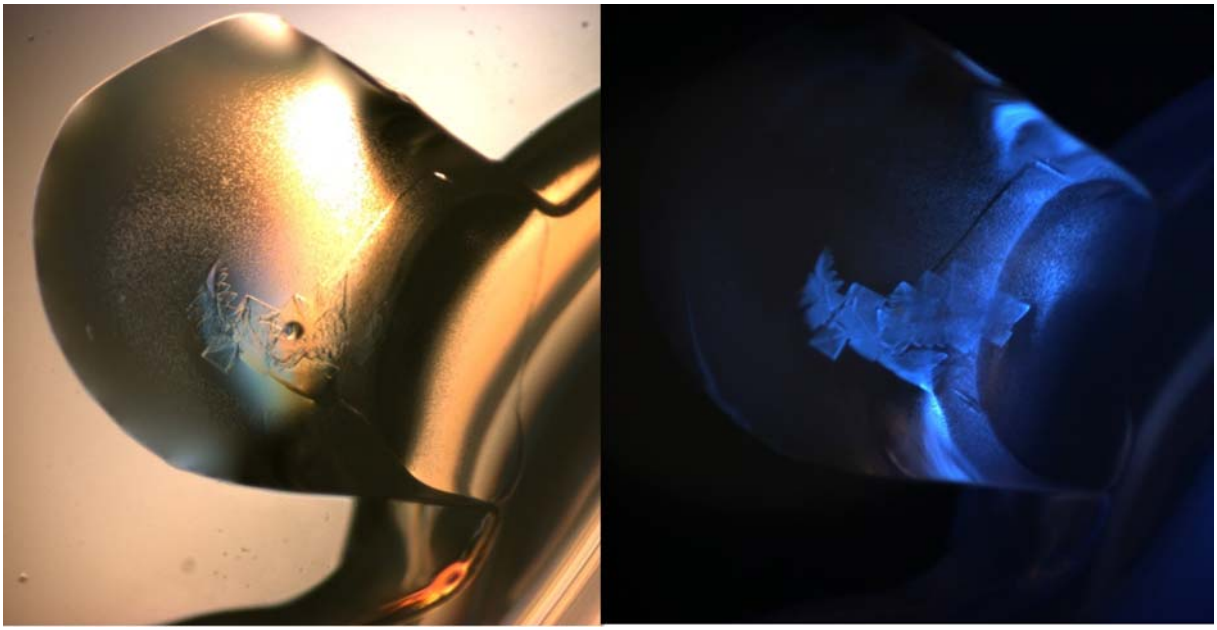

Figure 3

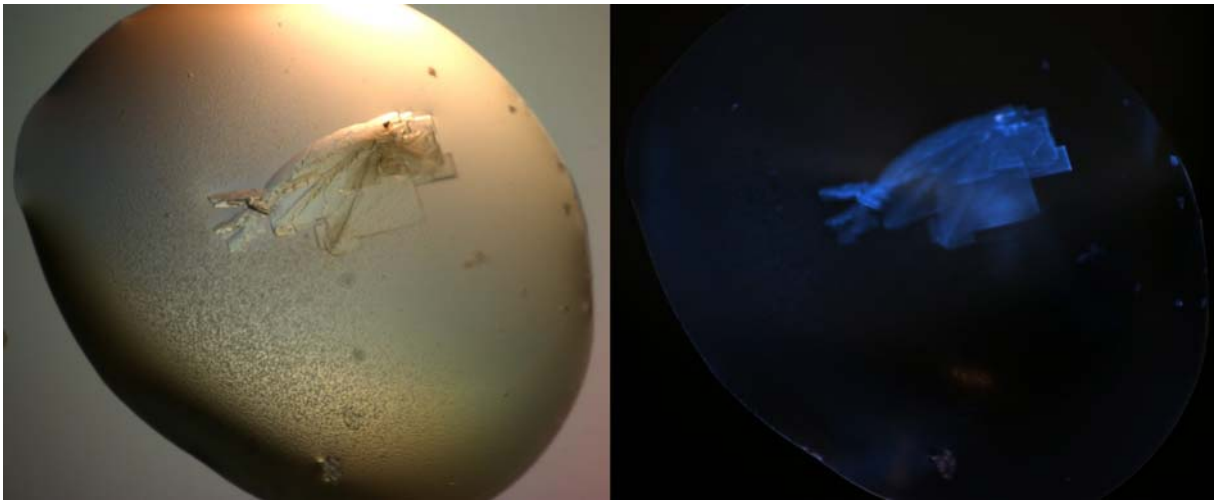

Figure 4

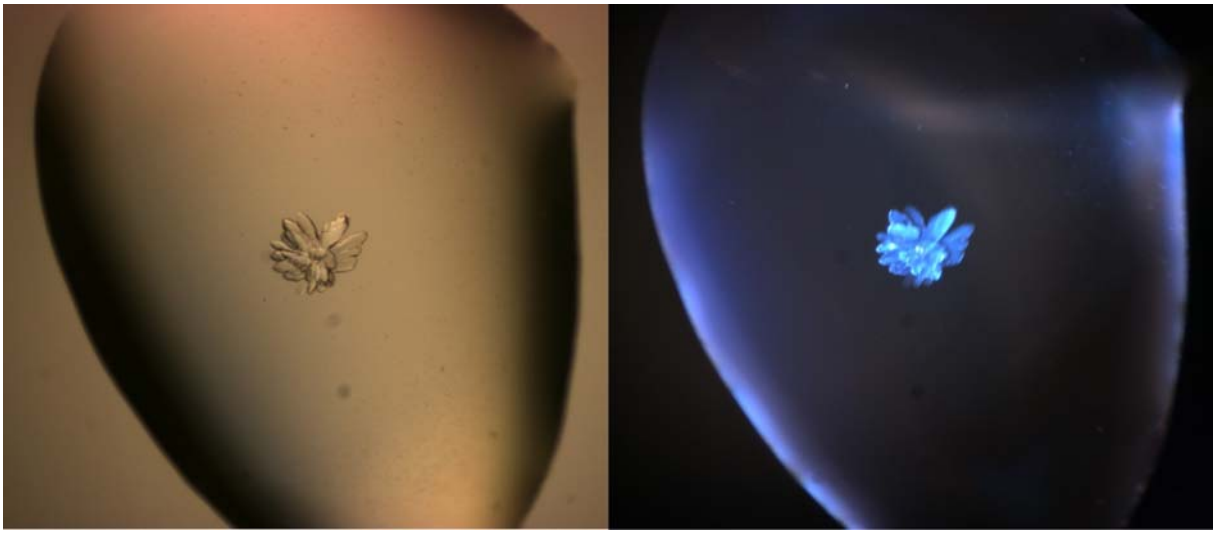

Figure 5

Figures 2, 3, 4 and 5 show protein crystals in a Linbro plates covered with cover slips. UV illumination (right) allows it to be unambiguously concluded that these crystals are proteins.

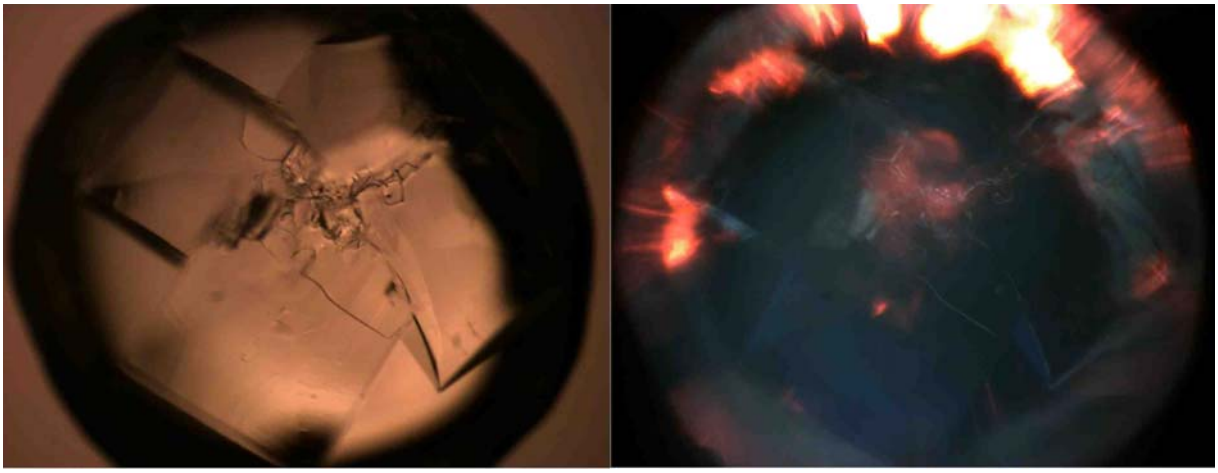

Figure 6

Figure 6 shows sodium chloride crystals in a Linbro plate covered with cover slip. Under UV illumination they are almost invisible.

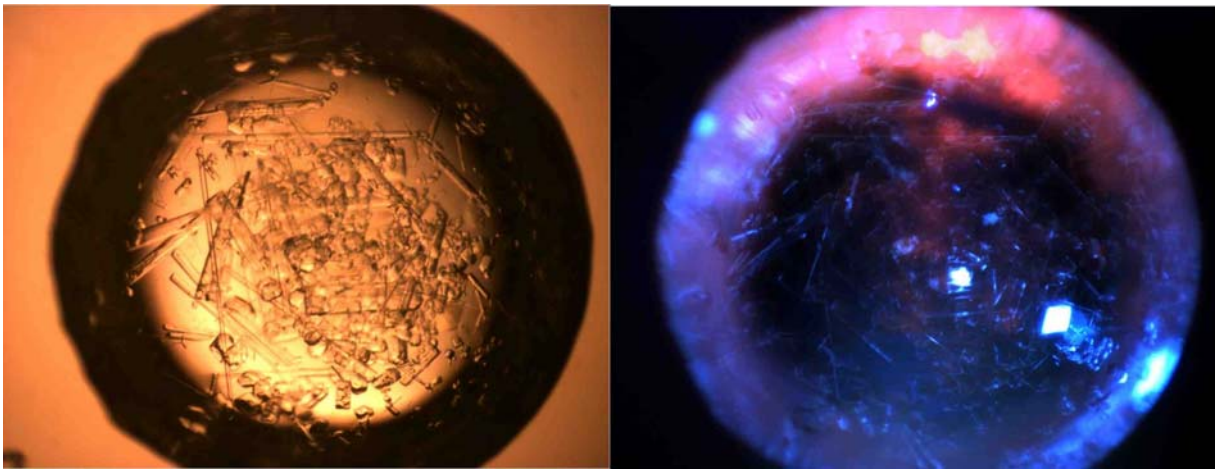

Figure 7

Figure 7 shows a situation that is sometimes observed: an accumulation of many crystals and only a few of them are protein crystals. These would go undetected without using UV light. A Linbro plate covered with a cover slip was used here as well.

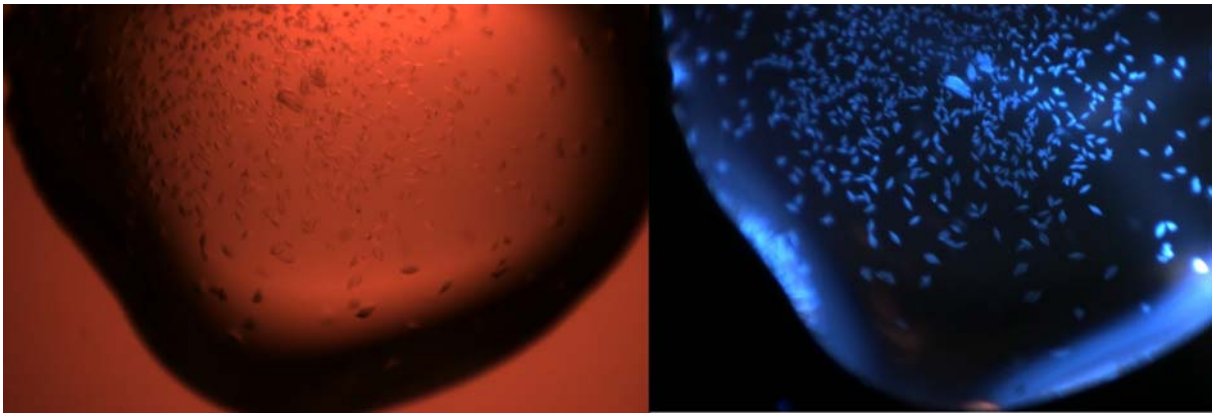

Figure 8

Figure 8 shows tiny crystals. UV illumination revealed that they are protein. Note that the white light illumination was performed without a colour compensation filter (filter 3).

Greiner 288 plates

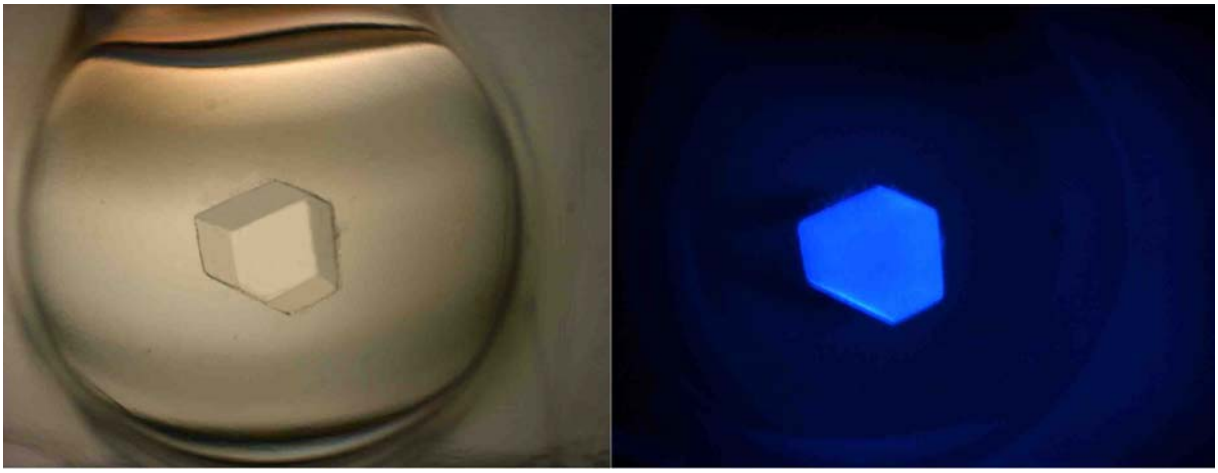

Figure 9 A single glucose isomerase crystal in a Greiner 288 lbr plate, covered with polymeric film. Under UV illumination it shows a strong intrinsic fluorescence.

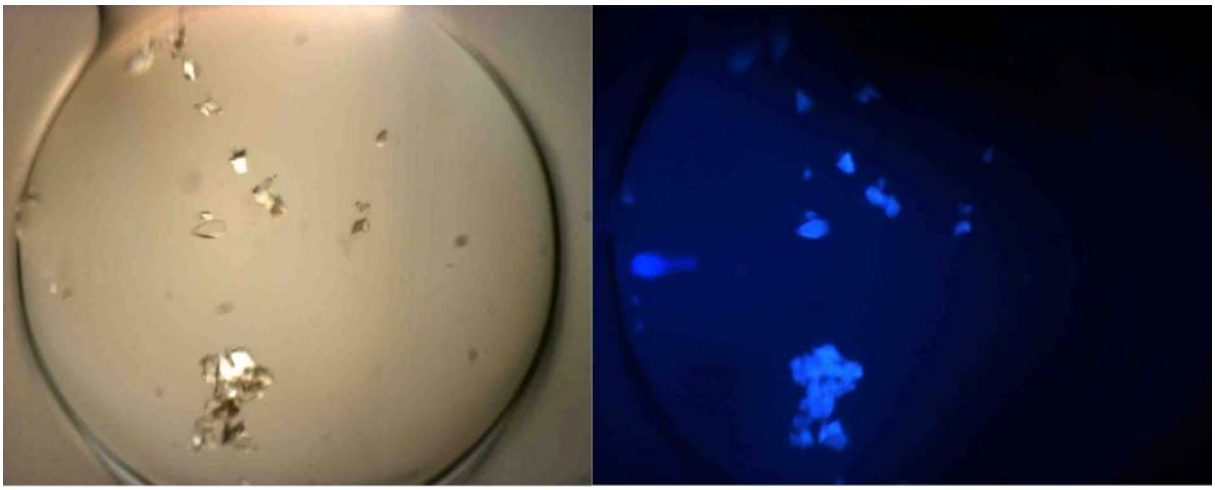

Figure 10 Tiny crystals of thaumatin. UV illumination gives a clear visible intrinsic fluorescence signal.

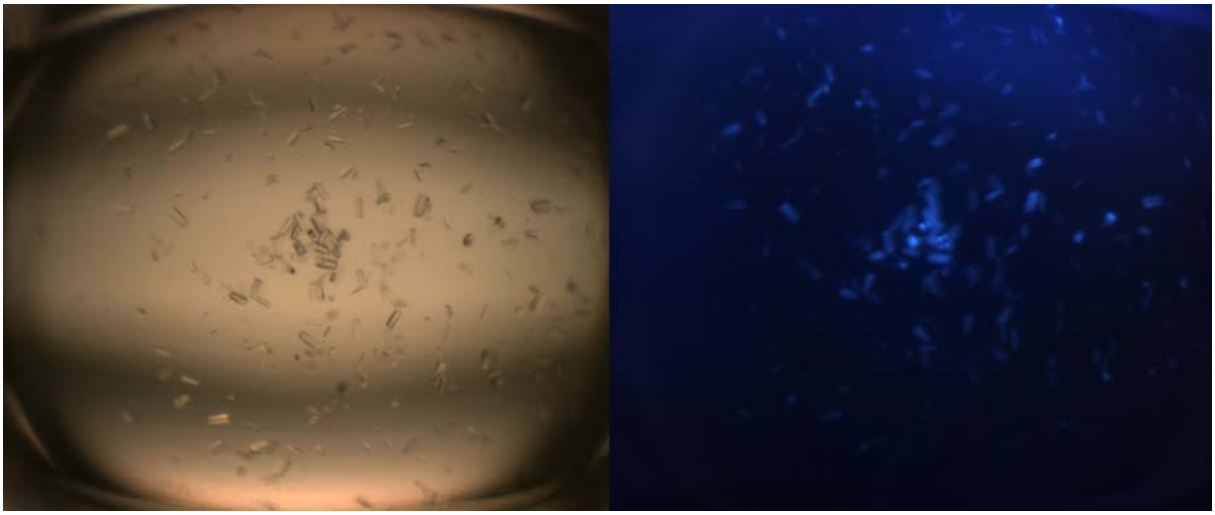

Figure 11 Protein crystals after a successful screening procedure in a Greiner 288 lbr plate. UV illumination indicates the success.

Figure 12 A salt crystal from a screening attempt in a Greiner 288 lbr plate. Under UV the crystal is almost invisible.

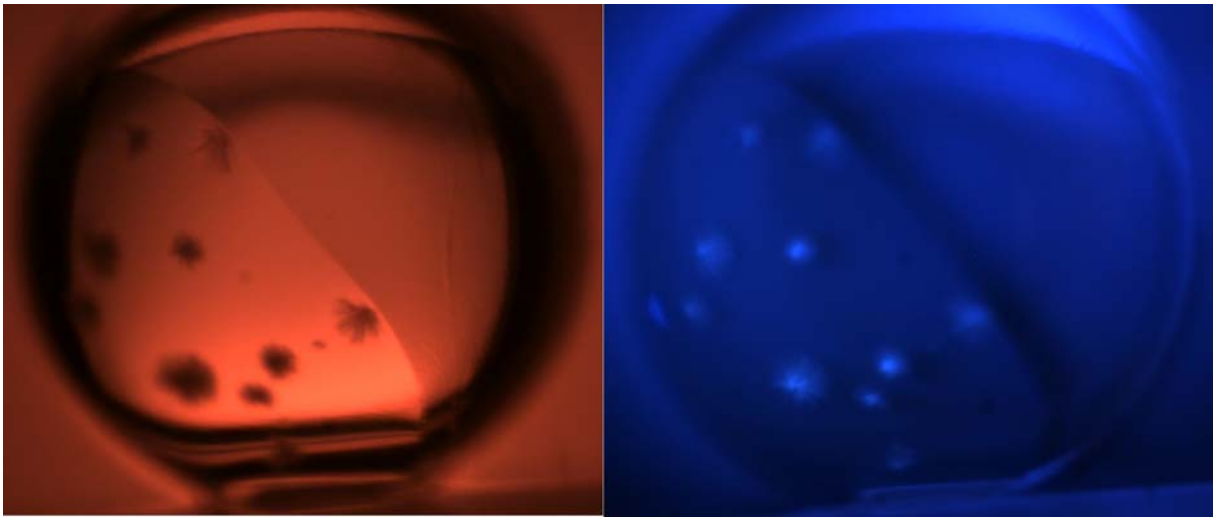

Figure 13 Here crystal needles of an uncharacterized 30 kDa protein from Dutch iris (*Iris hollandica*) occur in a Greiner 288 lbr plate. They are often observed after screening experiments. Note that the white light illumination was also performed without a colour compensation filter.

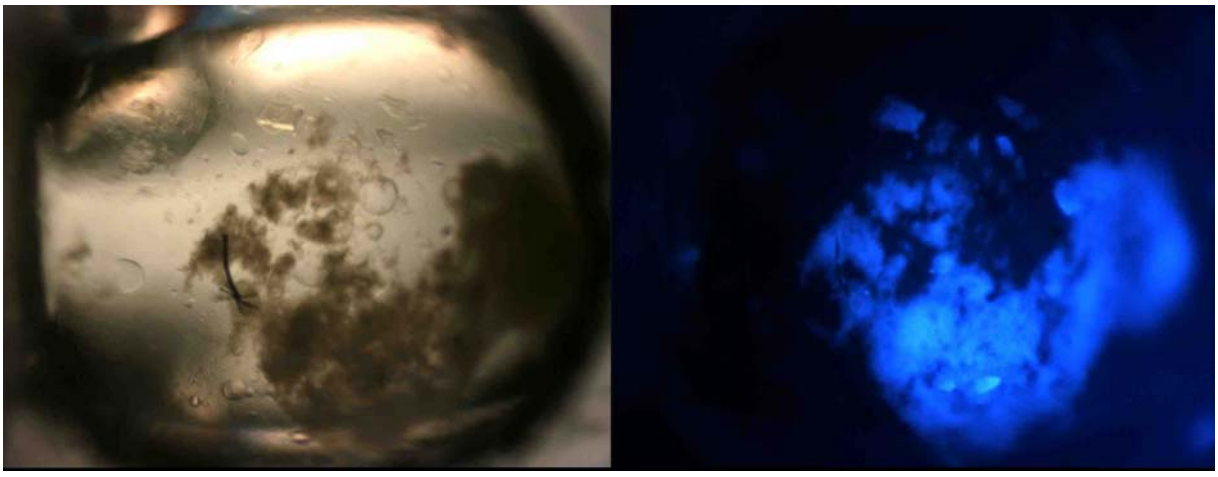

Figure 14 Crystals of the protein dihydrofolate reductase from a facultative alkaliphilic and halotolerant bacillus strain, beneath amorphous precipitation in a Greiner 288 lbr plate. The reservoir solution was 0.1 *M* sodium citrate pH 5.6, 0.5 *M* ammonium sulfate, 1 *M* lithium sulfate. The crystals appear brighter then precipitation when illuminated with UV because of their higher protein density.

Glass capillaries

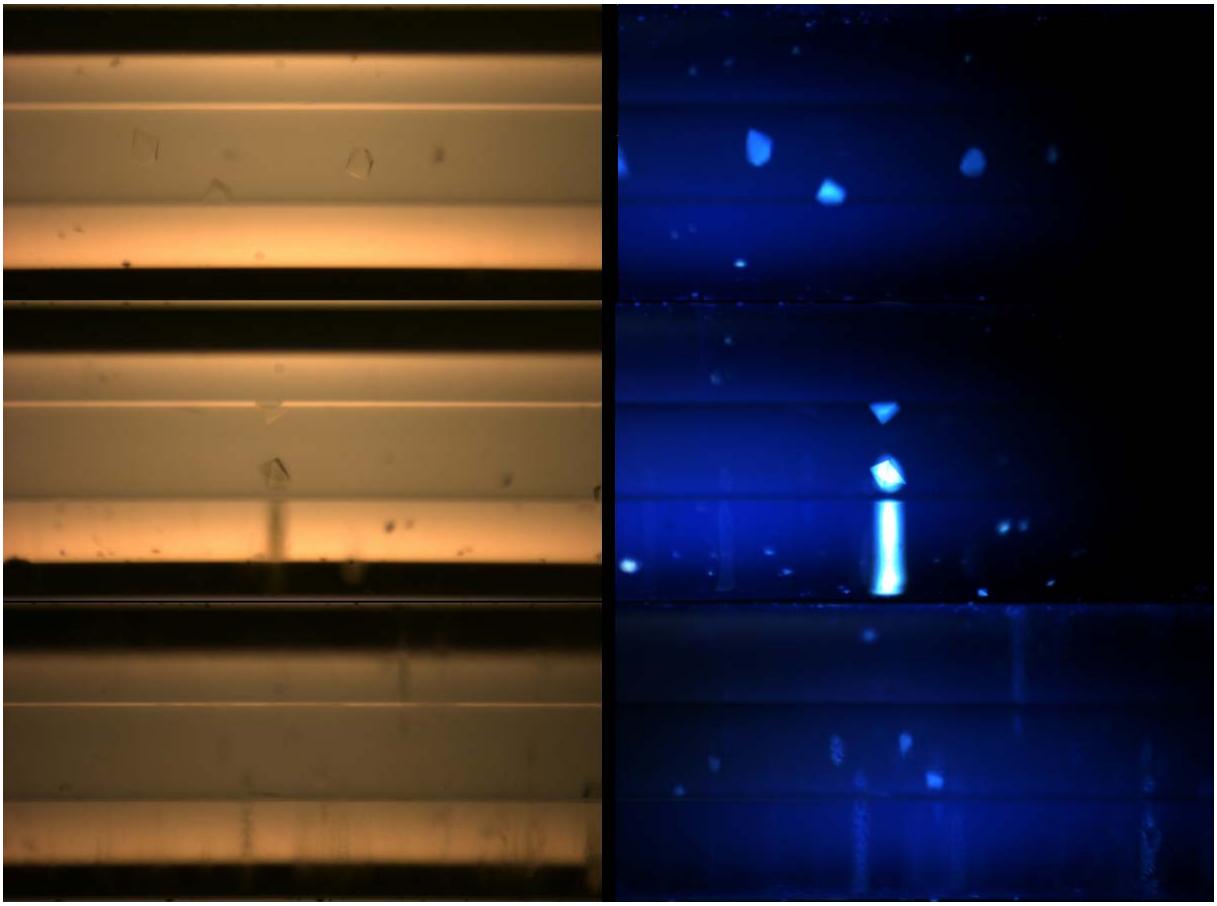

Figure 15 Mistletoe lectin I crystals within glass capillaries grown in a counter diffusion crystallization experiment with 1 *M* ammonium sulfate in 0.2 *M* glycine buffer pH 2.5. Even with the wall diameter of approximately 0.5 mm of these capillaries, clear intrinsic fluorescence of the protein crystals can be observed.