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Question and Answer Document for the September 19, 2018 Webinar - Advancing the Frontiers of Cancer Research: Colony Formation Assay Counting

This webinar covered the merits of manual and automated counting methods. It then demonstrated the proficiencies of using an automated system. Last a demo of an automated colony counter, the GelCount, was given to show just how fast and easy one of these systems can be.

These are the answers for the direct questions that were asked about this tumor formation assay webinar.

Note - Some questions below have been edited to how they were asked during the webinar but the information below should answer all questions we received.

1. **What is the minimum colony size GelCount can detect?**
   Depending on spacing of colonies, general colony morphology, and the background, the GelCount can distinguish colonies as small as 30 µm in diameter at its maximum resolution setting (2,400 ppi).

2. **What culture-ware is compatible with the GelCount?**
   The GelCount is compatible with 6-, 12-, 24-, 48- and 96-well plates (up to 4 plates of any one type may be imaged simultaneously), as well as with 35 mm (up to 24), 50 mm (up to 12) and 100mm (up to 4) Petri dishes and some specific T25 flasks.

3. **What throughput rates can be achieved with the GelCount?**
   The throughput rate is largely limited by the speed of image acquisition, which is in itself a function of the user chosen image resolution and the plate or dish type used. Typical processing time (acquiring the image and processing it) for four 6-well plates of adherent, stained colonies is around 6 minutes (600 ppi). Alternatively, the processing time for four 6-well plates of non-adherent colonies in soft agar is about 12 minutes (1,200 ppi). At the highest demand, which is four 96-well plates, imaged at maximum resolution (2,400 ppi), the total processing time would be around 45 minutes.

4. **Are the hardware and software components sold separately?**
   No, the hardware and software components are not sold separately. The hardware images the colonies in a proprietary format that can only be read by the software. The nice thing is there is no licensing or fees for the software, so it can be put on as many computers as needed allowing for imaging to take place at a set location and the processing to be done by anyone, anywhere off line on their own time.

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5. **Can the GelCount be used to count yeast or bacterial cell colonies?**
   Yes! While not a primary application, GelCount can be used successfully to image and count bacterial or yeast cell colonies on standard, non-opaque agar plates (example images available if needed). These colonies need to be over 30 µm to be accurately counted.

6. **We had a few application questions and without getting into specifics:**
   The GelCount is of interest to cancer researchers who employ the colony forming assay to measure the efficacy of anti-cancer drugs and other treatment regimes on cells. Other applications for the GelCount could include the cell proliferation assay, the invasion assay and bacterial and yeast colony counting studies.
   The GelCount will not dependably detect highly diffuse colonies (i.e. CFU-G/M colonies) or highly irregular colonies (i.e. BFU-E colonies). The algorithm was not made for colony counting based on colony morphology.

7. **Does the GelCount need to be calibrated in any way?**
   No, the GelCount (hardware component) once hooked up to a dedicated computer needs no calibration to be used. Similarly, the software component needs no calibration.

8. **Is there a possibility of doing an in-house live demo with our clonogenic assay?**
   Contact one of our associates (sales@scintica.com) to learn more about this option. On that note, we are more that open to always providing online demos like the one seen in the webinar as a first step in allowing users to interact with us 1 on 1 about the software. Our goal is to ensure you are comfortable that the GelCount will both work with your colonies/treatments and will excel your (and others around you doing colony counts) research in every way over manual counting.

If you have any further questions about counting colonies or the GelCount please do not hesitate to direct those to sales@scintca.com or Jcroft@scintica.com for a quick response.