

CELL CULTURE MEDIA IDENTIFICATION IN BIOPHARMACEUTICALS WITH HANDHELD RAMAN

- Improved quality control
- Increased production efficiency


Progeny

The new generation in handheld Raman analysis that streamlines your raw material ID workflow.

CELL CULTURE MEDIA IDENTIFICATION USING RAMAN ANALYSIS

Cell culture media used for the growth of cells plays an important role in the quality and efficiency of biopharmaceutical production. Raman spectroscopy is a nondestructive, reliable, efficient, and cost-effective method to analyze cell culture media. Now recognized by the USP and EP as a viable technique for compendial identification, Raman analysis provides highly detailed chemical information on a variety of samples and requires little to no sample preparation.

MINIMIZE SAMPLE INTERFERENCE WHILE MAXIMIZING EFFICIENCY

Fluorescence generated from cell culture media is a common problem associated with handheld Raman analyzers.

With a higher excitation wavelength, generated by the handheld Raman Progeny 1064nm analyzer, signal-blocking fluorescence is minimized. To demonstrate the advantages of the use of a 1064nm analyzer, four synthetic cell culture media were analyzed with Rigaku Raman 1064nm and 785nm spectrometers (Figures 1-4).

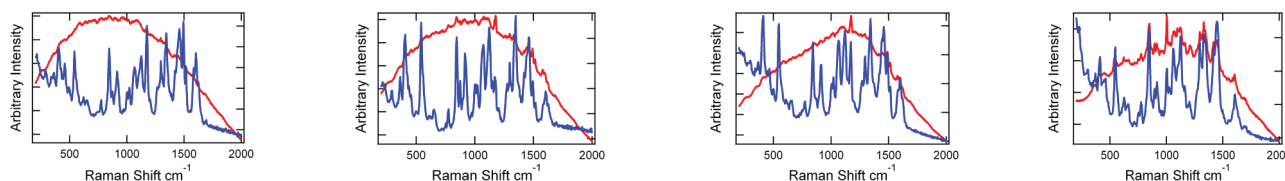
The 785nm spectra produced significant fluorescence, making it difficult to obtain reliable and specific sample data. In contrast, 1064nm spectra produced compound specific "signature" Raman peaks used to reliably distinguish different media. Spectra in Figure 5 resulted from 1064nm analysis of two cell culture media containing small differences in component structure, both of which are versions of a minimum essential medium developed by Harry Eagle.

Progeny 1064nm Advanced Analysis Technology

- Expands the list of identifiable materials
- Distinguishes between closely related compounds
- Generates higher quality data

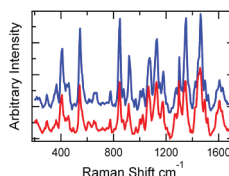
CONCLUSION

Progeny is ideal for identification due to its chemical selectivity. Easy-to-use and implement into your processes, Progeny provides the means for obtaining rapid analysis of your cell culture media at a cost that is less than half of a laboratory instrument.



Figures 1-4. Raman spectra of cell culture medium measured at 785nm and 1064nm excitation.

Figure 5. 1064nm laser excitation spectra of two slightly different modifications of Minimum Essential Medium Eagle.



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