Debate prompts: “With the emergence of single-cell technologies, there is no longer a place for bulk RNA sequencing. Discuss.”

Impact on Personalised Medicine:

- How do single-cell technologies enhance our ability to tailor treatments to individual patients compared to bulk technologies?
- Can bulk technologies match the precision level of single-cell analyses in the context of personalized medicine?

Drug Resistance Studies:

- Discuss how single-cell technologies can be used to better understand the emergence of drug resistance in cancer cells.
- Are there cancer related examples where bulk analysis has successfully identified resistance mechanisms that single-cell technologies could not?

Accessibility:

- Consider the accessibility and resource requirements of single-cell technologies in different parts of the world. How does this compare to bulk technologies?
- Could the high cost and complexity of single-cell technologies limit their impact in less resource-rich environments?

Data Complexity:

- Debate the challenges associated with interpreting the vast amount of data generated by single-cell technologies. Is more data necessarily better?
- How do the complexities of single-cell data analysis affect the speed and efficiency of research compared to bulk analysis?

Ethical Considerations:

- Are there ethical considerations that arise specifically because of the resolution of data provided by single-cell technologies?
- Discuss the potential for misinterpretation of single-cell data and how this could impact patients compared to bulk data analyses.

Technological Integration:

- How can single-cell and bulk technologies complement each other in a research setting?
- Provide examples where integrating both approaches led to breakthroughs that might not have been possible using just one method.