- Higher eukaryotes like mammalian cells or insect or plant cells provide much lower yields and are harder to manage. Mammalian cells such as ovarian cells of CHO are commonly used to produce complex glycoproteins.
- Plant and transgenic animals produce therapeutic proteins in a tissue (in the case of plants) or in a fluid (most often milk for transgenic animals) in large quantities that are highly practical sources of future biological products.

Given that living entities are involved in the expression of proteins, it is easy to see how a change in bioprocessing conditions can readily alter the structure of proteins. Harder to manage are the variance in the glycan patterns, the antibody-dependent cell-mediated cytotoxicity, and other similar variations that might not necessarily be clinically meaningful, yet to prove it otherwise may be impossible, resulting in a biosimilar product developer modifying the bioprocessing to assure that the structure of protein expressed is as close as possible to the originator molecule.

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