

It is preferable to analyze the samples using validated analytical procedures because those would be the analytical methodologies employed during full stability evaluation of samples derived from the exhibit-batch manufacturing program.

Should the generic product prove to be stable over a 2- to 3-month period of exposure to accelerated conditions, there would be a high degree of probability that the formulation scientist has succeeded in formulating a stable drug product.

It is also vitally important to ensure that all desirable characteristics observed during the manufacture of the final formula at development level are maintained as closely as possible when the formulation is scaled up. The dissolution and disintegration profiles at the predetermined hardness levels (where applicable) should be consistent. The bulk and tapped densities of the powder/granule, before compression/encapsulation, as well as the pertinent granulometries should be similar and the “loss on drying” values of the granule/powder before compression/encapsulation should be consistent with previous data.

Once the generic drug product has demonstrated a minimum of 2 months of satisfactory stability, attention must be focused on the following:

- Development of specifications for both raw material (API) and the dosage form
- Ordering of the API and excipients for exhibit-batch manufacture
- Ordering of all relevant tooling, change parts, and capsule shells (if required)
- Completion of a Development Report

It is essential that the raw material specifications are set in conjunction with the API manufacturer to avoid setting specifications that may be considered too restrictive by the latter. The debate invariably involves limits with respect to related substances/impurities/degradation products, residual solvents, particle size, and, in certain instances, microbial limits, especially where the active raw material(s) is produced by fermentation at some stage during the synthetic pathway. Only once both parties are in full agreement should the requisite specification(s) be confirmed and signed by the responsible persons.

## **DEVELOPMENT REPORT**

A Development Report is a summary of the complete development process and will be the subject of keen regulatory agency scrutiny during a Pre-approval Inspection (FDA) or any other similar audit.

This report must make detailed reference to the following:

- a. An overview of the actions and uses of the particular active as well as any information pertinent to the relevant pharmacokinetics.
- b. A brief description of the innovator product and the pack sizes commercially available and appropriate to all markets where the product is destined to be sold.
- c. A detailed summary of the innovator product’s physical characteristics (such as appearance, size, shape, and weight). The inclusion of a photograph, as visual confirmation, is desirable.