3.2.S.4.3. VALIDATION OF ANALYTICAL PROCEDURES – OVERVIEW [OMICRON (XBB.1.5) VARIANT]

3.2.S.4.3.1. Analytical Procedures Used for Release and Stability Testing

Validation or verification of analytical procedures for BNT162b2 Original drug substance (DS) was performed to ensure composition, strength, identity, purity, and safety. Non-compendial analytical procedures were confirmed suitable for their intended use by assessing all relevant validation elements described in ICH Q2 (R1), Validation of Analytical Procedures: Text and Methodology. Compendial analytical procedures were verified or validated according to the appropriate USP, Ph. Eur., and JP chapters.

The DS concentration, formulation process, quality attributes, and process control remain unchanged in the variant. The test methods used for BNT162b2 Original DS (i.e. mRNA vaccine platform methods) are identical to those used for the variant DS, apart from the identity methods, which differ solely in the variant-specific PCR primers used in the assay. The supplemental validations for the identity methods, digital droplet polymerase chain reaction (ddPCR) and reverse transcription-polymerase chain reaction (RT-PCR), for the variant DS are referenced in Table 3.2.S.4.3-1. The supplemental ddPCR validation was performed at a single laboratory [redacted] to confirm method performance. Upon completion of the supplemental validation, the other qualified and licensed laboratories may implement the ddPCR method for the current variant using the appropriate site quality systems.

Table 3.2.S.4.3-1. Summary of Validations for DS Variant

Analytical Procedure	Variant DS	Validation	Validation Report
ddPCR for Identity	BNT162b2 Omicron (XBB.1.5)	Supplemental validation: [redacted]	RPT-188718[a]
RT-PCR for Identity		Validation: [redacted]	MVR-23-0009

a. Transfer waiver for additional qualified sites listed in Section 3.2.S.2.1 Manufacturer(s) presented within appendix section of this report

Abbreviations: ddPCR = droplet digital polymerase chain reaction; RT-PCR = reverse transcription-polymerase chain reaction; [redacted]

The remainder of the DS analytical procedures are not impacted by the change to the mRNA sequence and do not require additional validation for the variant. Therefore, laboratories and test methods previously verified/validated for the testing of BNT162b2 Original DS are considered suitable for testing of the variant DS.