

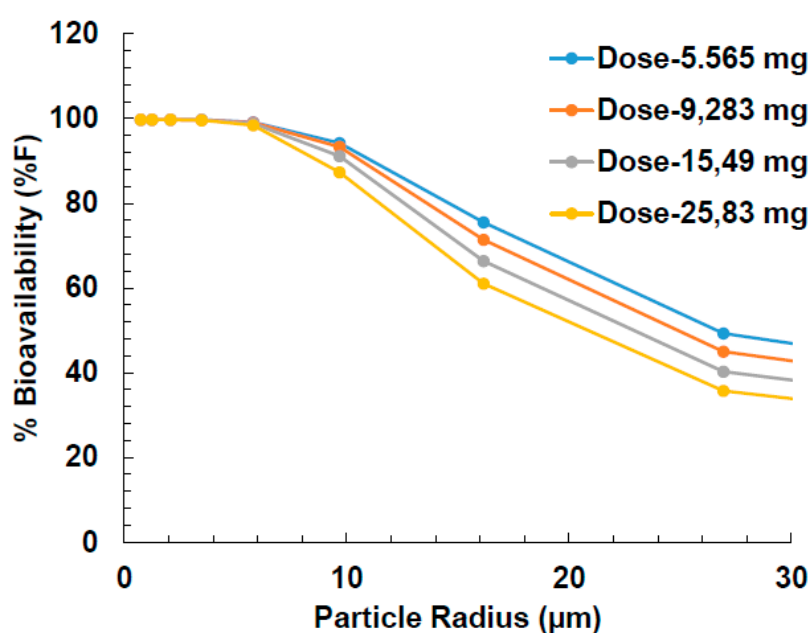
# Supplementary Materials: On Absorption Modeling and Food Effect Prediction of Rivaroxaban, a BCS II Drug Orally Administered as an Immediate-Release Tablet

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**Table S1.** Concentration of different components of the simulated media used in the solubility and dissolution studies.

|                                 | FaSSGF | FaSSIF | FeSSGF | FeSSIF |
|---------------------------------|--------|--------|--------|--------|
| PH                              | 1.6    | 6.5    | 5.0    | 5.0    |
| Solubility [ $\mu\text{g/ml}$ ] | 11.0   | 9.9    | 24.0   | 16.8   |
| Sodium taurocholate (mM)        | 0.08   | 3.0    | -      | 15     |
| Lecithin (mM)                   | 0.02   | 0.75   | -      | 3.75   |
| Sodium chloride (mM)            | 34.2   | 105.9  | 237.02 | 203.2  |
| Sodium hydroxide (mM)           | -      | 8.7    | -      | 101    |
| Hydrochloric acid (mM)          | 25.1   | -      | -      | -      |
| Monobasic sodium phosphate (mM) | -      | 28.4   | -      | -      |
| Acetic acid (mM)                | -      | -      | 17.12  | 144.1  |
| Pepsin (mg/ml)                  | 0.1    | -      | -      | -      |
| Sodium acetate anhydrous (mM)   | -      | -      | 29.75  | -      |
| Milk/Buffer                     | -      | -      | 1:1    | -      |

Results of sensitivity analysis: PSA analysis clearly showed that the bioavailability of Rivaroxaban is influenced by both the dose as well as the particle size of the pure API. Effect on particle size on bioavailability is more pronounced at higher dose strength



**Figure S1.** Predicted combined effect of Riva particle size and dose on the bioavailability.