**Supplementary Data**

**Diagram

Description automatically generated with medium confidence**

**Figure S1.** Mean emtricitabine (FTC) concentrations in plasma collected from MSM following 2 oral doses of integrase strand transfer inhibitor-containing regimens given 24 hours apart. Geometric mean concentrations and 95% CI for plasma are presented from 2 to 120 hours following the first dose for participants receiving unboosted FTC or FTC boosted with cobicistat. The dotted line indicates the lower limit of quantification (LLOQ) for FTC measurements in plasma (10 ng/mL).

**Supplemental Table 1: Pharmacokinetic parameters of emtricitabine in plasma**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Cmax**  **(ng/mL)a** | **Tmax**  **(h)** | **AUC0-120h (ng\*h/mL)b** |
| Emtricitabine (+cobicistat) | 2611  (2096 – 3252) | 26 | 43,288  (4051) |
|  |  |  |  |
| Emtricitabine  (-cobicistat) | 872  (642 – 1184) | 2 | 16,018  (1131) |

aValues presented as geometric mean (95% confidence interval)

bValues presented as calculated AUC0-120h (standard error)

**Diagram, engineering drawing

Description automatically generated**

**Figure S2.** Mean emtricitabine (FTC) concentrations in rectal specimens collected from MSM following 2 oral doses of integrase strand transfer inhibitor-containing regimens given 24 hours apart. Geometric mean concentrations and 95% CI for rectal tissue (A) and rectal secretion (B) are presented from 2 to 120 hours following the first dose for study participants receiving unboosted FTC or FTC boosted with cobicistat. The dotted line indicates the lower limit of quantification (LLOQ) for FTC measurements in tissue (1 ng/sample) and rectal swabs (1 ng/swab).

**Supplemental Table 2: Pharmacokinetic parameters of emtricitabine in rectal tissue**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Cmax**  **(ng/mg)a** | **Tmax**  **(h)** | **AUC0-120h (ng\*h/mg)b** | **AUC0-120h Tissue:Plasma Ratio** |
| Emtricitabine (+cobicistat) | 4.41  (1.32 – 14.69) | 4 | 275.37  (107.08) | 6.4 |
|  |  |  |  |  |
| Emtricitabine  (-cobicistat) | 0.71  (0.42 – 1.22) | 4 | 61.32  (29.89) | 3.8 |

aValues presented as geometric mean (95% confidence interval)

bValues presented as calculated AUC0-120h (standard error)

**Supplemental Table 3: Antiretroviral Drug Detection**

|  |  |  |
| --- | --- | --- |
| **Specimen** | **FTC** | **TFV** |
| **Urethral Swab** | 97/134 | 21/134 |
|  | (72%) | (16%) |
|  |  |  |
| **Glans Swab** | 96/144 | 22/144 |
|  | (67%) | (15%) |
|  |  |  |
| **Urine** | 138/138 | 135/138 |
|  | (100%) | (98%) |