## Supplementary Materials

## Contents

**Protocol for Study 1.1**

CT-P59_1.1_Final Protocol.pdf

**Protocol for Study 1.2**

CT-P59_1.2_Final Protocol.pdf

***Supplementary Table 1:*** **Study 1.1 - Pharmacokinetics of CT-P59 following intravenous infusion in healthy volunteers (pharmacokinetic set)**

| | **CT-P59 10 mg/kg n=6** | **CT-P59 20 mg/kg n=6** | **CT-P59 40 mg/kg n=6** | **CT-P59 80 mg/kg n=6** |
|---|---|---|---|---|
| $AUC_{0\text{-}inf}$, hr.ng/mL | | | | |
| Mean (SD) | 52469185·01 (20377788·537) | 88353384·06 (17775504·913) | 167086786·92 (21899708·768) | 335692549·28 (58444099·427) |
| Geometric mean (%CV) | 49998469·02 (38·84) | 86962509.20 (20.12) | 165870499.20 (13.11) | 331963970·54 (17·41) |
| Median (IQR) | 44653674·13 (41787075·8–50708887·4) | 86277822·05 (77535767·7–92342141·2) | 165286614·95 (159220255·8–179402510·6) | 317548308·78 (311782823·4–334658124·2) |
| $AUC_{0\text{-}inf/dose}$, hr.ng/mL/mg | | | | |
| Mean (SD) | 68774·06 (22010·251) | 70620·56 (20122·523) | 54763·47 (6031·159) | 58981·80 (7971·328) |
| Geometric mean (%CV) | 66463·92 (32·00) | 68540·59 (28·49) | 54478·05 (11·01) | 58549·04 (13·51) |
| Median (IQR) | 61433·80 (58708·5–66118·9) | 65715·19 (62327·8–72455·7) | 56246·64 (48629·9–59326·2) | 57631·03 (51819·5–63286·3) |
| $C_{max}$, ng/mL | | | | |
| Mean (SD) | 233,166·7 (37,796·38) | 406,333·3 (43,647·07) | 1,020,000·0 (240,084·15) | 1,941,666·7 (267,538·16) |
| Geometric mean (%CV) | 230,290·3 (16·2) | 404,385·4 (10·7) | 994,192·2 (23·5) | 1,925,564·8 (13·8) |
| Median (IQR) | 236,500·0 (226,000–266,000) | 408,000·0 (364,000–435,000) | 1,034,500·0 (871,000–1,260,000) | 2,025,000·0 (1,680,000–2,150,000) |
| $T_{max}$, hours | | | | |
| Mean (SD) | 2·095 (0·5015) | 2·363 (1·5803) | 2·072 (0·5785) | 4·052 (4·7166) |
| Geometric mean (%CV) | 2·044 (23·936) | 2·067 (66·868) | 2·003 (27·924) | 2·845 (116·410) |
| Median (IQR) | 2·080 (1·67–2·57) | 1·575 (1·52–2·55) | 2·070 (1·52–2·60) | 2·430 (1·62–2·67) |
| Dose-normalised $C_{max}$, (ng/mL)/(mg/kg) | | | | |
| Mean (SD) | 23,316·7 (3,779·64) | 20,316·7 (2,182·35) | 25,500·0 (6,002·10) | 24,270·8 (3,344·23) |
| Geometric mean (%CV) | 23,029·0 (16·2) | 20,219·3 (10·7) | 24,854·8 (23·5) | 24,069·6 (13·8) |
| Median (IQR) | 23,650·0 (22,600–26,600) | 20,400·0 (18,200–21,750) | 25,862·5 (21,775–31,500) | 25,312·5 (21,000–26,875) |
| $t_{½}$, hours | | | | |
| Mean (SD) | 473·286 (181·26) | 426·395 (84·52) | 398·591 (36·30) | 526·811 (106·62) |
| Geometric mean (%CV) | 452·028 (38·298) | 420·082 (19·823) | 397·204 (9·106) | 518·553 (20·240) |
| Median (IQR) | 409·507 (381·33–425·72) | 419·699 (353·34–433·17) | 397·577 (371·08–433·67) | 486·056 (455·53–595·29) |
| CL, mL/h | | | | |
| Mean (SD) | 15·459 (3·50) | 14·985 (3·62) | 18·455 (2·13) | 17·201 (2·20) |
| Geometric mean (%CV) | 15·046 (22·670) | 14·590 (24·134) | 18·356 (11·534) | 17·080 (12·809) |
| Median (IQR) | 16·298 (15·12–17·03) | 15·219 (13·80–16·04) | 17·780 (16·86–20·56) | 17·431 (15·80–19·30) |
| $V_z$, mL | | | | |
| Mean (SD) | 9848·9 (950·0) | 8880·3 (907·1) | 10,532·2 (581·0) | 12,805·5 (937·1) |
| Geometric mean (%CV) | 9811·91 (9·65) | 8842·22 (10·22) | 10,518·82 (5·52) | 12,777·57 (7·32) |
| Median (IQR) | 9469·75 (9155·38–10,771·65) | 8865·89 (8178·69–9323·57) | 10,513·17 (10,025·89–11,008·74) | 12,576·79 (11,939·52–13,570·48) |

%CV=% coefficient of variation; CL= total body clearance; $C_{max}$=maximum observed serum concentration; IQR=inter-quartile range; SD=standard deviation; t½=terminal elimination half-life; $T_{max}$=time to $C_{max}$; $V_z$=volume of distribution during the terminal phase.

***Supplementary Table 2:*** **Study 1.1 and 1.2 - Statistical analysis to assess dose proportionality up to day 90 in Study 1.1 and day 14 in Study 1.2 (pharmacokinetic set)**

| **Study** | **n** | **Slope** | | | **Intercept** | | | |
|---|---|---|---|---|---|---|---|---|
| | | **Estimate** | **SE** | **90% CI** | **Estimate** | **SE** | **90% CI** | **Coefficient of determination** |
| **Study 1.1** | | | | | | | | |
| $C_{max}$, (ng.hr/mL) | 24 | 1.049 | 0.0489 | (0.965, 1.133) | 9.879 | 0.1677 | (9.591, 10.167) | 0.9544 |
| $AUC_{0-last}$, ng.hr/mL | 24 | 0.913 | 0.0469 | (0.833, 0.994) | 15.558 | 0.1609 | (15.281, 15.834) | 0.9451 |
| $AUC_{0-inf}$, ng.hr/mL | 24 | 0.912 | 0.0543 | (0.819, 1.006) | 15.589 | 0.1863 | (15.269, 15.909) | 0.9277 |
| **Study 1.2** | | | | | | | | |
| $C_{max}$, (ng.hr/mL) | 15 | 1.21458 | 0.07939 | (1.074, 1.355) | 9.31751 | 0.29628 | (8.793, 9.842) | 0.9474 |

Estimates and 90% CIs are obtained from a power model with log-transformed pharmacokinetic parameters as the dependent variable and log-transformed dose (mg/kg) as the independent variable. CI=confidence interval; $C_{max}$=maximum observed serum concentration; SE=standard error.

***Supplementary Table 3:*** **Study 1.2 - Mean change in viral titres from baseline to 7 days following treatment in nasopharyngeal swab specimens (intent-to-treat set)**

| | **CT-P59 20 mg/kg n=5** | **CT-P59 40 mg/kg n=5** | **CT-P59 80 mg/kg n=5** | **Placebo n=3** |
|---|---|---|---|---|
| Viral shedding change from baseline, mean ($log_{10}$ copies/mL), SD | | | | |
| Day 2 | –0·566 (0·5148) | –0·220 (1·2170) | –0·344 (0·5194) | –0·280 (0·8407) |
| Day 3 | –1·376 (0·7310) | –0·880 (1·1810) | –0·800 (0·7053) | –0·290 (0·5903) |
| Day 4 | –2·314 (0·8347) | –1·142 (1·2158) | –2·260 (1·2750) | –0·727 (0·4343) |
| Day 5 | –2·986 (0·9591) | –1·616 (1·6198) | –1·546 (1·0717) | –0·733 (0·6966) |
| Day 6 | –2·958 (1·2363) | –1·856 (1·6973) | –1·844 (1·3600) | –0·883 (0·5387) |
| Day 7 | –3·104 (1·7149) | –1·758 (1·6375) | –2·290 (1·1463) | –0·997 (0·9691) |

***Supplementary Table 4:*** **Study 1.2 - Clinical efficacy of CT-P59 up to day 14 of follow-up in patients with mild SARS-CoV-2 infection (intent-to-treat set)**

| | **CT-P59 20 mg/kg n=5** | **CT-P59 40 mg/kg n=5** | **CT-P59 80 mg/kg n=5** | **Overall CT-P59 n=15** | **Placebo n=3** |
|---|---|---|---|---|---|
| Patients with clinical recovery, n (%) | | | | | |
| Up to day 7 | 4 (80) | 4 (80) | 5 (100) | 13 (86·7) | 2 (66·7) |
| Up to day 14 | 5 (100) | 5 (100) | 5 (100) | 15 (100) | 2 (66·7) |
| Time to clinical recovery, days | | | | | |
| Mean (SD) | 4·43 (2·28) | 3·21 (3·24) | 2·52 (1·75) | 3·39 (2·46) | 5·25 (6·73) |

NA=not available; SARS-CoV-2=severe acute respiratory syndrome coronavirus 2.

***Supplementary Table 5:*** **Study 1.2 - Pharmacokinetics of CT-P59 up to day 14 of follow-up in patients with mild SARS-CoV-2 infection (pharmacokinetic set)**

| | **CT-P59 20 mg/kg n=5** | **CT-P59 40 mg/kg n=6** | **CT-P59 80 mg/kg n=6** |
|---|---|---|---|
| $C_{max}$, ng/mL | | | |
| Mean (SD) | 435,000·0 (84,911·72) | 978,200·0 (220,175·38) | 2,318,000 (226,870·01) |
| Geometric mean (%CV) | 428,758·5 (19·5) | 958,142·5 (22·5) | 2,309,196·7 (9·8) |
| Median (IQR) | 421,000·0 (414,000–430,000) | 1,000,000·0 (817,000–1,090,000) | 2,260,000·0 (2,190,000–2,470,000) |
| $T_{max}$, hours | | | |
| Mean (SD) | 2·287 (0·4407) | 2·137 (0·5366) | 2·127 (0·5342) |
| Geometric mean (%CV) | 2·245 (19·273) | 2·078 (25·115) | 2·069 (25·119) |
| Median (IQR) | 2·5 (2·4–2·5) | 2·5 (1·6–2·5) | 2·5 (1·6–2·5) |
| Dose-normalised $C_{max}$ (ng/mL)/(mg/kg) | | | |
| Mean (SD) | 21,750·0 (4245·59) | 24,455·0 (5504·38) | 28,975·0 (2835·88) |
| Geometric mean (%CV) | 21,437·9 (19·5) | 23,953·6 (22·5) | 28,865·0 (9·8) |
| Median (IQR) | 21,050·0 (20,700–21,500) | 25,000·0 (20,425–27,250) | 28,250·0 (27,375–30,875) |

%CV=% coefficient of variation; $C_{max}$=maximum plasma concentration; SARS-CoV-2=severe acute respiratory syndrome coronavirus 2; $T_{max}$=time to $C_{max}$.