Supplementary Figures and Tables





Figure S Absolute quantification and the standard curves for three cloned plasmids: A) GAPDH, B) ChHV5 Dpol and C) CmPV1-E1 were plotted based on the cycles (cq values) and the log of concentration (10 to 108 copies per reaction).

A

Table S The origin of FP tumour samples (Group A) used in this study, including location, turtle tag number, curved carapace length (CCL) and weight. All samples were collected from green turtles, excluding three samples from a green/hawksbill hybrid (\*) and one sample from a loggerhead (\*\*). The calculated concentration of each target is provided for each sample (where applicable). The copy number per cell of Chelonia mydas papillomavirus 1 (CmPV1) and/or Chelonid alphaherpesvirus 5 (ChHV5) is per sample (shown as appropriate).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | **Demographic information (if available)** | **Calculated Concentration:copy number per reaction (2 µL)** | **Copy number per cell** |
| **Sample region** | **Sample ID** | **Tag number** | **CCL (cm)** | **Weight (kg)** | **CmPV1** | **ChHV5** | **GAPDH** | **CmPV1** | **ChHV5** |
| Townsville | CB83FP | QA29610 | 45.0 | 8.0 |  | 1.40E+06 | 1.10E+05 |  | 2.55E+01 |
| Townsville | CB93FP | QA36631 | 59.6 | 29.0 |  | 878573.1 | 132187.1 |  | 13.29287 |
| Townsville | CB94FP | QA9554 | 53.7 | 13.1 |  | 736462.9 | 56987.51 |  | 25.84647 |
| Townsville | CB95FP | QA29605 | 57.5 | 22.0 |  | 102.1898 | 34.12851 |  | 5.98853 |
| Townsville | CB96FP | QA32170 | 61.1 | 26.0 |  |  | 11295.94 |  |  |
| Townsville | CB97FP | K92985 | 46.2 | - |  | 296245.1 | 39526.74 |  | 14.98961 |
| Townsville | CB98FP | QA15682 | 49.7 | 10.6 |  | 20.40152 | 23485.09 |  | 0.001737 |
| Townsville | CB99FP1 | QA42017 | 48.6 | 13.1 |  | 540504.7 | 171407.8 |  | 6.306654 |
| Townsville | CB99FP2 |  |  |  | 54.67283 | 417018.6 | 108785.5 | 0.001005 | 7.666805 |
| Townsville | CB100FP? | QA38829 | 42.0 | 8.2 |  | 21.44204 | 677.4224 |  | 0.063305 |
| Townsville | CB101FP1 | QA7433 | 44.9 | 8.8 | 384.6 | 6.52E+05 | 1.36E+05 | 5.66E-03 | 9.59E+00 |
| Townsville | CB101FP2 |  |  |  | 871.7 | 3.19E+06 | 1.95E+05 | 0.008945 | 32.69369 |
| Townsville | CB101FP3 |  |  |  | 37.96307 | 921489.6 | 220937.9 | 0.000344 | 8.341616 |
| Townsville | CB102FP1 | QA47530 | 48.1 | 12.7 | 702.1854 | 5360.511 | 67088.33 | 0.020933 | 0.159805 |
| Townsville | CB102FP2 |  |  |  | 133.3026 | 6554.884 | 63568.35 | 0.004194 | 0.206231 |
| Townsville | CB102FP3 |  |  |  | 5045 | 1125 | 6.47E+04 | 0.155999 | 0.034787 |
| Townsville | CB103FP1 | QA7392 | 50.2 | 12.9 | 88.65 | 2.50E+05 | 2.58E+05 | 0.000689 | 1.937864 |
| Townsville | CB103FP2 |  |  |  | 214.8988 | 434833 | 118051.5 | 0.003641 | 7.366834 |
| Townsville | CB103FP3 |  |  |  | 163.0798 | 234421.1 | 44396.28 | 0.007347 | 10.5604 |
| Townsville | CB104FP1 | QA42248 | 44.2 | 8.8 |  | 808530.2 | 151929.6 |  | 10.64349 |
| Townsville | CB104FP2 |  |  |  |  | 134093.7 | 10722.72 |  | 25.01113 |
| Townsville | CB104FP3 |  |  |  | 52.90798 | 245960 | 53662.31 | 0.001972 | 9.166954 |
| Townsville | CB105FP1 | QA38803 | 50.5 | 13.4 | 74.3866 | 489490.7 | 147616.6 | 0.001008 | 6.631921 |
| Townsville | CB105FP2 |  |  |  | 19.25 | 4.70E+05 | 2.96E+05 | 0.00013 | 3.175397 |
| Townsville | CB106FP1 | QA7381 | 53.0 | 14.9 | 80.9203 | 186848.6 | 36285.02 | 0.00446 | 10.29894 |
| Townsville | CB106FP2 |  |  |  | 328.3374 | 298552.9 | 30872.87 | 0.02127 | 19.34079 |
| Townsville | CB106FP3 |  |  |  | 35.47351 | 119518.3 | 55331.87 | 0.001282 | 4.320054 |
| Townsville | CB107FP1 | QA7388 | 49.5 | 13.1 |  | 470056.9 | 104041.2 |  | 9.035978 |
| Townsville | CB107FP2 |  |  |  |  | 780594 | 1140585 |  | 1.368761 |
| Townsville | CB107FP3 |  |  |  | 20.8703 | 252964.3 | 682013.6 | 6.12E-05 | 0.741816 |
| Townsville | CB108FP1 | QA42923 | 43.6 | 6.5 |  | 198.266 | 9170.036 |  | 0.043242 |
| Townsville | CB108FP2 |  |  |  | 17.05147 | 214.5014 | 26865.94 | 0.001269 | 0.015968 |
| Townsville | CB108FP3 |  |  |  |  | 23.1668 | 1384.618 |  | 0.033463 |
| Townsville | CB109FP1 | QA38835 | 50.3 | 15.3 | 694.8 | 1.96E+05 | 1.55E+06 | 0.000897 | 0.252421 |
| Townsville | CB109FP2 |  |  |  | 477.2608 | 95185.5 | 59923.15 | 0.015929 | 3.176919 |
| Townsville | CB109FP3 |  |  |  | 367.427 | 81824.71 | 46010.18 | 0.015972 | 3.556809 |
| Townsville | CB110FP1 | QA38827 | 44.0 | 9.8 |  | 491515.1 | 176833.8 |  | 5.559063 |
| Townsville | CB110FP2 |  |  |  | 27.00222 | 116724.7 | 49669.29 | 0.001087 | 4.700076 |
| Townsville | CB110FP3 |  |  |  | 205.3986 | 795979.2 | 72820.47 | 0.005641 | 21.86141 |
| Townsville | CB111FP1 | QA36842 | 46.3 | 12.5 |  | 522285.4 | 97321.2 |  | 10.73323 |
| Townsville | CB111FP2 |  |  |  |  | 526739 | 97293.38 |  | 10.82785 |
| Townsville | CB111FP3 |  |  |  |  | 626337.6 | 136207.9 |  | 9.196785 |
| Townsville | CB112FP1 | QA47488\* | 60.3 | 21.8 |  | 3219.141 | 61.73183 |  | 104.2943 |
| Townsville | CB112FP2 |  |  |  |  | 23636.45 | 1442.775 |  | 32.76527 |
| Townsville | CB112FP3 |  |  |  |  | 63443.51 | 3841.37 |  | 33.03171 |
| Townsville | CB113FP1 | No Tag |   |   |  | 239.0367 | 46.51105 |  | 10.2787 |
| Townsville | CB113FP2 |  |  |  |  | 141.8268 | 85.7317 |  | 3.30862 |
| Townsville | CB113FP3 |  |  |  |  | 1974.158 | 270.6072 |  | 14.59058 |
| Townsville | CB114FP1 | QA62135 | 48.0 | 9.7 | 59.85474 | 1338103 | 152347 | 0.000786 | 17.56652 |
| Townsville | CB114FP2 |  |  |  | 88.32 | 2.13E+06 | 2.63E+05 | 0.000672 | 16.23431 |
| Townsville | CB114FP3 |  |  |  | 227.478 | 478559.2 | 132242.7 | 0.00344 | 7.237587 |
| Townsville | CB115FP | QA9588 |   |   |  | 836.8713 | 27311.15 |  | 0.061284 |
| Bowen | BW99FP | K59365 | 46.5 | 11.6 | 206.0745 | 141624.4 | 62956.17 | 0.006547 | 4.499141 |
| Bowen | BW01FP | K52477 | 48.4 | 12.0 | 523.4 | 8.714 | 7.88E+04 | 0.013286 | 0.000221 |
| Bowen | BW107FP | K97336 | 25.7 | 10.5 | 36.6676 | 2008167 | 332241.6 | 0.000221 | 12.08859 |
| Bowen | BW108FP | QA15758 | 49.4 | 13.0 | 10.60037 | 3566.926 | 17655.55 | 0.001201 | 0.404057 |
| Bowen | BW116FP | QA15730 | 71.6 | 34.2 | 29.57064 |  | 1517.905 | 0.038962 |  |
| Bowen | BW117FP | QA15763 | 58.0 | 21.9 |  |  | 323.4765 |  |  |
| Bowen | BW118FP | QA15774 | 48.7 | 11.0 | 535.6 | 393.3 | 1.55E+06 | 0.000691 | 0.000507 |
| Bowen | BW119FP | QA15788 | 53.3 | 15.6 | 222 |  | 1.85E+04 | 0.024 |  |
| Bowen | BW120FP | QA32132\*\* | 85.5 | 72.4 |  | 32681.3 | 664.4833 |  | 98.36606 |
| Bowen | BW121FP | QA36607 | 73.1 | 43.0 |  |  | 26796.37 |  |  |
| Bowen | BW122FP | QA36634 | 57.4 | 22.5 | 177.6 | 15.31 | 8.49E+04 | 0.004186 | 0.000361 |
| Bowen | BW123FP | QA7340 | 45.3 | 10.2 |  | 381673.2 | 38733.7 |  | 19.70755 |
| Bowen | BW124FP1 | QA36626 | 44.8 | - | 47.64 | 5.57E+04 | 3.01E+05 | 0.000317 | 0.370259 |
| Bowen | BW124FP2 |  |  |  | 124.4032 | 9514.502 | 38719.79 | 0.006426 | 0.491454 |
| Bowen | BW125FP? | QA36635 | 55.9 | 18.0 | 91.28411 |  | 1160.759 | 0.157284 |  |
| Bowen | BW126FP1 | QA36636 | 47.6 | 11.8 | 139 | 540 | 6.37E+04 | 0.004365 | 0.016957 |
| Bowen | BW126FP2 |  |  |  |  | 504.0661 | 32806.78 |  | 0.030729 |
| Bowen | BW127FP | K79524 | 95.1 | 93.3 |  | 144.0536 | 465.1105 |  | 0.619438 |
| Bowen | BW128FP | K93052 | 42.5 | 8.5 | 282.977 | 13146.21 | 56709.25 | 0.00998 | 0.463635 |
| Bowen | BW129FP | K94004  | 62.1 | 28.0 | 58.69069 |  | 1059.89 | 0.110749 |  |
| Bowen | BW130FP | K97113 | 47.9 | - | 34.98911 | 1500457 | 441319.3 | 0.000159 | 6.799871 |
| Bowen | BW131FP | K97114 | 50.5 | - |  | 1001654 | 134246.2 |  | 14.92265 |
| Bowen | BW132FP | K97117 | 45.0 | - |  | 1266036 | 66100.51 |  | 38.30639 |
| Bowen | BW134FP | K97287 | 57.0 | - |  | 1161.984 | 423.0933 |  | 5.492801 |
| Bowen | BW135FP | K97288 | 46.2 | - |  | 19154.51 | 823.3694 |  | 46.52715 |
| Bowen | BW136FP | K97289 | 51.8 | - | 31.38807 | 977766.9 | 114030.7 | 0.000551 | 17.14919 |
| Bowen | BW137FP | QA15638 | 48.6 | 11.0 |  | 711360.8 | 53662.31 |  | 26.51249 |
| Bowen | BW138FP | QA15672 | 45.3 | 10.6 | 92.18531 |  | 218.2944 | 0.844596 |  |
| Bowen | BW139FP | QA15678 | 76.2 | 43.6 | 81.8215 | 526334.1 | 116521.1 | 0.001404 | 9.034143 |
| Bowen | BW140FP | QA15761 | 77.1 | 54.6 | 18.1 |  | 1.73E+05 | 0.000209 |  |
| Bowen | BW141FP | QA15787 | 43.1 | 9.2 |  |  | 735.9959 |  |  |
| Bowen | BW142FP | QA15951 | 45.4 | - |  | 1015825 | 112528.1 |  | 18.0546 |
| Bowen | BW143FP | QA24175 | 45.5 | 9.7 | 48.73993 | 10522.63 | 23596.39 | 0.004131 | 0.891885 |
| Bowen | BW144FP | QA29702 | 44.4 | 10.0 |  | 1783868 | 37523.27 |  | 95.08061 |
| Bowen | BW145FP | QA36630 | 47.8 | 13.0 |  | 959.5476 | 73.93351 |  | 25.95704 |
| Bowen | BW146FP? | QA47548 | 42.1 | 9.4 |  | 5716.798 | 116980.2 |  | 0.09774 |
| Bowen | BW147FP? | K52483 | 52.3 | 14.8 |  |  | 40.52847 |  |  |
| Bowen | BW148FP? | K97048 | 46.6 | - |  |  | 118.6637 |  |  |
| Bowen | BW149FP? | K97070 | 69.8 | 35.7 |  |  | 218.5727 |  |  |
| Bowen | BW150FP? | QA15666 | 46.9 | 12.0 |  | 108.8702 | 265.1811 |  | 0.821101 |
| Bowen | BW151FP | QA9536 | 44.6 | 8.4 |  |  | 38.6224 |  |  |
| Bowen | BW151FP? |  |  |  |  |  | 466.9192 |  |  |
| Bowen | BW152FP | K52464 | 54.0 | - | 989.7 | 6731 | 4.58E+05 | 0.004327 | 0.029425 |
| Bowen | BW153FP | K92663 | 44.7 | - | 56.70054 | 994366.6 | 649735.5 | 0.000175 | 3.060835 |
| Bowen | BW154FP | K93074 | 45.0 | 11.0 |  | 1050644 | 2893897 |  | 0.72611 |
| Bowen | BW155FP | K93640 | 47.9 | 11.8 |  | 3464088 | 1747469 |  | 3.964693 |
| Bowen | BW156FP | K97025 | 48.1 | - | 2.74E+05 | 229.2 | 5.20E+05 | 1.052915 | 0.000882 |
| Bowen | BW158FP | K97483 | 48.5 | - |  | 4198527 | 357145.9 |  | 23.51155 |
| Bowen | BW159FP | QA15979 | 47.2 | - | 691.5 | 6.75E+07 | 1.07E+06 | 0.001289 | 125.8155 |
| Bowen | BW160FP | QA15980 | 44.0 | - | 700.6 | 5.46E+06 | 6.30E+05 | 0.002224 | 17.33333 |
| Bowen | BW162FP | K93038 |  |  | 289.6609 | 10591.46 | 396380.4 | 0.001462 | 0.053441 |
| Bowen | 9231 | 09-231 | 57.1 | - |  | 7890963 | 1897729 |  | 8.316219 |
| Bowen | QA4962 |  | 44.5 | - |  | 3593647 | 440901.9 |  | 16.30135 |
| Brisbane | MB01FP1 | No tag 1 | 46.3 | - |  | 3357202 | 1426079 |  | 4.708297 |
| Brisbane | MB01FP2 |  |  | - | 138.2 | 2.96E+06 | 2.63E+05 | 0.001052 | 22.53521 |
| Brisbane | MB01FP3 |  |  | - | 76.03 | 3.60E+06 | 2.39E+05 | 0.000636 | 30.07525 |
| Brisbane | MB03FP1 | No tag 3 | 44.4 |  |  | 1341747 | 380937 |  | 7.044456 |
| Brisbane | MB03FP2 |  |  |  |  | 1085463 | 428380.2 |  | 5.067754 |
| Brisbane | MB03FP3 |  |  |  |  | 1793180 | 168068.6 |  | 21.33866 |
| Brisbane | MB04FP1 | No tag 4 | 43.1 | -  |  | 1473331 | 644726.9 |  | 4.570403 |
| Brisbane | MB04FP2 |  |  |  |  | 1671718 | 366606.7 |  | 9.119955 |
| Brisbane | MB05FP | QA45711 | 52.1 | -  |  | 526739 | 130350.6 |  | 8.081882 |
| Brisbane | MB06FP1 | K87178 | 62.3 | -  |  |  | 1102.324 |  |  |
| Brisbane | MB07FP1 | Kerry |   |   | 30.86612 | 2760.825 | 24.33378 | 2.536895 | 226.913 |
| Brisbane | SW01FP1 | Alice | 45.0 | - |  | 1464828 | 1452514 |  | 2.016956 |
| Brisbane | SW01FP2 |  |  |  |  | 1200042 | 555127.4 |  | 4.323483 |
| Brisbane | SW02FP1 | Tay | 52.4 | - |  | 421877 | 68090.06 |  | 12.39174 |
| Brisbane | SW02FP2 |  |  |  | 69.20469 | 3409431 | 133954 | 0.001033 | 50.90448 |
| Gladstone | GS52FP1 | QA34793 | 101.1 | 126.0 | 465.8 | 873.4 | 1.73E+05 | 0.005388 | 0.010103 |
| Gladstone | GS72FP | QA58207 | 60.2 | 24.0 | 30.16769 | 124822.2 | 60702.27 | 0.000994 | 4.112603 |
| Gladstone | GS73FP | QA58252 | 60.3 | 23.3 |  |  | 63999.65 |  |  |
| Gladstone | GS74FP | QA58271 | 70.1 | 36.5 |  |  | 87067.35 |  |  |
| Cairns | CN01FP1 | Roxy | 47.6 | - | 280.9117 | 15494467 | 295511.4 | 0.001901 | 104.8654 |
| Cairns | CN01FP2 |  |  |  | 52.11943 | 4125650 | 1471992 | 7.08E-05 | 5.605533 |
| Cairns | CN02FP1 | Destiny |   |   | 150.3 | 1.99E+05 | 5.35E+04 | 0.005621 | 7.430815 |
| Airlie Beach | AB01FP1 | No tag | 49.0 | - |  | 615406.1 | 360485 |  | 3.414323 |
| Airlie Beach | AB01FP2 |  |  |  | 163.9059 | 419042.9 | 345041.6 | 0.00095 | 2.428942 |
| Airlie Beach | AB01FP3 |  |  |  | 57.86459 | 822700.7 | 397632.6 | 0.000291 | 4.137994 |
| Airlie Beach | AB01FP4 |  |  |  |  | 868046.4 | 409597.7 |  | 4.238531 |

Table S The origin of samples of non-tumoured skin from turtles with FP tumours (Group B samples) used in this study, including location, turtle tag number, curved carapace length (CCL) and weight. All samples were collected from green turtles, excluding one sample from a loggerhead (Caretta caretta) (\*\*). The calculated concentration of each target is provided for each sample (where applicable). The copy number per cell of Chelonia mydas papillomavirus 1 (CmPV1) and/or Chelonid alphaherpesvirus 5 (ChHV5) is per sample (shown as appropriate).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | **Demographic information (if available)** | **Calculated Concentration:copy number per reaction (2 µL)** | **Copy number per cell** |
| **Sample region** | **Sample ID** | **Tag number**  | **CCL (cm)** | **Weight (kg)** | **CmPV1** | **ChHV5** | **GAPDH** | **CmPV1** | **ChHV5** |
| Townsville | CB83N | QA29610 | 45.0 | 8.0 |  |  | 152.7935 |  |  |
| Townsville | CB99N | QA42017 | 48.6 | 13.1 |  |  | 4984.502 |  |  |
| Townsville | CB101N | QA7433 | 44.9 | 8.8 |  |  | 251.6029 |  |  |
| Townsville | CB102N | QA47530 | 48.1 | 12.7 |  |  | 9585.92 |  |  |
| Townsville | CB103N | QA7392 | 50.2 | 12.9 |  |  | 2382.61 |  |  |
| Townsville | CB104N | QA42248 | 44.2 | 8.8 |  |  | 6637 |  |  |
| Townsville | CB105N | QA38803 | 50.5 | 13.4 |  |  | 381.9397 |  |  |
| Townsville | CB106N | QA7381 | 53.0 | 14.9 |  | 14.03 | 2.06E+04 |  | 0.001361 |
| Townsville | CB107N | QA7388 | 49.5 | 13.1 |  |  | 152.7935 |  |  |
| Townsville | CB108N | QA42923 | 43.6 | 6.5 | 247 |  | 1.03E+04 | 0.047776 |  |
| Townsville | CB109N | QA38835 | 50.3 | 15.3 |  |  | 689.5522 |  |  |
| Townsville | CB110N | QA38827 | 44.0 | 9.8 |  |  | 168.9975 |  |  |
| Townsville | CB111N | QA36842 | 46.3 | 12.5 | 11.29 | 7756 | 2.01E+05 | 1.13E-04 | 0.077289 |
| Bowen | BW01N | K52477 | 48.4 | 12.0 |  |  | 1.59E+04 |  |  |
| Bowen | BW99N | K59365 | 46.5 | 11.6 | 5545 |  | 4.36E+04 | 0.254241 |  |
| Bowen | BW107N | K97336 | 25.7 | 10.5 |  |  | 1894.727 |  |  |
| Bowen | BW108N | QA15758 | 49.4 | 13.0 |  | 113 | 5107.794 | 0.000163 | 0.002029 |
| Bowen | BW116N | QA15730 | 71.6 | 34.2 |  |  | 4025.03 |  |  |
| Bowen | BW117N | QA15763 | 58.0 | 21.9 |  |  | 5270.715 |  |  |
| Bowen | BW118N | QA15774 | 48.7 | 11.0 |  |  | 2045.76 |  |  |
| Bowen | BW119N | QA15788 | 53.3 | 15.6 | 9.80E+04 |  | 2.60E+04 | 7.535563 |  |
| Bowen | BW120N  | QA32132\*\* | 85.5 | 72.4 | 29.30379 |  | 575.9478 | 0.101758 |  |
| Bowen | BW121N | QA36607 | 73.1 | 43.0 |  |  | 8326.585 |  |  |
| Bowen | BW122N | QA36634 | 57.4 | 22.5 | 6140 |  | 2.73E+04 | 0.450312 |  |
| Bowen | BW124N | QA36626 | 44.8 | - |  |  | 5151.827 |  |  |
| Bowen | BW125N | QA36635 | 55.9 | 18.0 | 46.79859 |  | 4460.513 | 0.020983 |  |
| Bowen | BW126N | QA36636 | 47.6 | 11.8 | 143.9676 |  | 4905.244 | 0.058699 |  |
| Bowen | BW145N | QA36630 | 47.8 | 13.0 |  |  | 559.6557 |  |  |
| Gladstone | GS52N | QA34793 | 101.1 | 126.0 | 5089 |  | 1.15E+05 | 0.088427 |  |
| Gladstone | GS72N | QA58207 | 60.2 | 24.0 |  |  | 3375.547 |  |  |
| Gladstone | GS73N | QA58252 | 60.3 | 23.3 |  |  | 2107.846 |  |  |
| Gladstone | GS74N | QA58271 | 70.1 | 36.5 |  |  | 2542.889 |  |  |
| Brisbane | MB01N | No tag 1 | 46.3 | - |  | 25.52748 | 47467.26 |  | 0.001076 |
| Brisbane | MB03N | No tag 3 | 44.4 | - |  |  | 1.04E+04 |  |  |
| Brisbane | MB05N | QA45711 | 52.1 | - |  |  | 2341.659 |  |  |
| Brisbane | MB06N | K87178 | 62.3 | - |  |  | 638.0339 |  |  |

Table S The origin of samples of non-tumoured skin from turtles without FP tumours (Group C samples) used in this study, including location, turtle tag number, curved carapace length (CCL) and weight. All samples were collected from green turtles. The calculated concentration of each target is provided for each sample (where applicable). The copy number per cell of Chelonia mydas papillomavirus 1 (CmPV1) and/or Chelonid alphaherpesvirus 5 (ChHV5) is per sample (shown as appropriate).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | **Demographic information (if available)** | **Calculated Concentration:copy number per reaction (2 µL)** | **Copy number per cell** |
| **Sample region** | **Sample ID** | **Tag number**  | **CCL (cm)** | **Weight (kg)** | **CmPV1** | **ChHV5** | **GAPDH** | **CmPV1** | **ChHV5** |
| Townsville | CB01 | QA32220 | 44.7 | 9.6 |  |   | 7.47E+10 |   |   |
| Townsville | CB02 | K92947/QA29615 | 47.4 | 10.0 |  |  | 1054004 |  |  |
| Townsville | CB03 | QA32265 | 48.3 | 48.0 | 472.9 |   | 1.75E+11 | 5.42E-09 |   |
| Townsville | CB04 | QA29616 | 66.4 | 30.0 |  |  | 4.71E+10 |  |  |
| Townsville | CB05 | K56931 | 46.6 | 12.0 |  |   | 2.03E+11 |   |   |
| Townsville | CB06 | K18987 | 46.3 | 11.0 |  |  | 9.76E+09 |  |  |
| Townsville | CB07 | QA29706 | 42.7 | 8.2 |  |   | 115230.7 |   |   |
| Townsville | CB09 | QA32222 | 54.3 | 17.1 | 135.2 |  | 415974.6 | 0.00065 |  |
| Townsville | CB10 | QA29603 | 48.4 | 13.0 |  |   | 1750133 |   |   |
| Townsville | CB11 | QA29709 | 62.5 | - |  |  | 1038195 |  |  |
| Townsville | CB12 | QA9469 | 45.2 | 9.5 |  |   | 210205 |   |   |
| Townsville | CB13 | QA29712 | 75.7 | - |  |  | 147270.7 |  |  |
| Townsville | CB14 | QA29711 | 45.4 | 10.8 |  |   | 187592.2 |   |   |
| Townsville | CB16 | QA29604 | 52.2 | 16.5 |  |  | 261816.5 |  |  |
| Townsville | CB18 | QA29707 | 48.0 | 13.6 |  |   | 599831.6 |   |   |
| Townsville | CB20 | QA32206 | 46.9 | 10.5 | 135.8 |  | 782863.6 | 0.000347 |  |
| Townsville | CB21 | QA29601 | 48.6 | 13.0 |  |   | 271393.4 |   |   |
| Townsville | CB22 | K90948 | 43.2 | 9.0 | 7452 |  | 182648.2 | 0.0816 |  |
| Townsville | CB23 | QA32212 | 42.2 | 8.8 | 546.1 |   | 202033.1 | 0.005406 |   |
| Townsville | CB24 | QA32215 | 69.4 | - |  |  | 291322.8 |  |  |
| Townsville | CB25 | QA32213 | 46.5 | 10.8 |  |   | 1.75E+11 |   |   |
| Townsville | CB26 | QA9595 | 50.9 | 15.0 |  |  | 4.71E+10 |  |  |
| Townsville | CB27 | QA29605 | 57.4 | 22.0 |  |   | 2.03E+11 |   |   |
| Townsville | CB28 | K92803 | 83.2 | - |  |  | 9.76E+09 |  |  |
| Townsville | CB29 | K92644 | 60.0 | - |  |   | 1.09E+10 |   |   |
| Townsville | CB30 | K92999 | 47.2 | - | 240.7 |  | 484542.3 | 0.000994 |  |
| Townsville | CB31 | QA32211/K40368 | 44.2 | 8.5 | 107 |   | 759056.1 | 0.000282 |   |
| Townsville | CB32 | K59356 | 45.2 | 10.2 | 653.4 |  | 1581766 | 0.000826 |  |
| Townsville | CB33 | QA29620 | 48.7 | 14.5 |  |   | 87366.36 |   |   |
| Townsville | CB34 | K92670 | 70.8 | - |  |  | 317240.5 |  |  |
| Townsville | CB35 | QA32242 | 85.8 | - |  | 88.7 | 1046292 |   | 0.00017 |
| Townsville | CB36 | QA32275 | 73.6 | - |  | 2.22E+05 | 116871.9 |  | 3.792186 |
| Townsville | CB37 | QA32250 | 86.6 | - |  | 55.47 | 125619.5 |   | 0.000883 |
| Townsville | CB38 | QA32234 | 71.8 | - |  |  | 698437.2 |  |  |
| Townsville | CB39 | K92985 | 46.2 | - |  |   | 144322.9 |   |   |
| Townsville | CB40 | QA15846 | 103.9 | - |  |  | 115230.7 |  |  |
| Townsville | CB41 | K90921 | 40.8 | 7.1 |  |   | 69273.49 |   |   |
| Townsville | CB42 | QA15682 | 49.7 | 10.6 |  |  | 274325.9 |  |  |
| Townsville | CB43 | K92980 | 46.4 | 9.6 |  |   | 176742.8 |   |   |
| Townsville | CB44 | QA32300 | 48.5 | 11.8 |  |  | 162074.6 |  |  |
| Townsville | CB45 | K92981 | 50.7 | 11.9 | 87.23 |   | 254332.9 | 0.000686 |   |
| Townsville | CB46 | K92982 | 45.2 | 9.1 |  |  | 374370.4 |  |  |
| Townsville | CB47 | K92990 | 74.6 | - | 1189 |   | 283515.5 | 0.008388 |   |
| Townsville | CB48 | QA9280 | 100.9 | - |  |  | 1.52E+05 |  |  |
| Townsville | CB49 | QA36779 | 46.6 | - |  |   | 1.1E+09 |   |   |
| Townsville | CB50 | QA9279 | 48.8 | - |  |  | 1.09E+10 |  |  |
| Townsville | CB51 | QA9528 | 43.9 | - |  |   | 4.39E+05 |   |   |
| Townsville | CB52 | QA9283 | 46.3 | - |  |  | 3.93E+05 |  |  |
| Townsville | CB53 | K88974 | 68.5 | - |  |   | 6.11E+05 |   |   |
| Townsville | CB54 | K92949 | 48.9 | 12.1 |  |  | 115230.7 |  |  |
| Townsville | CB55 | QA9277 | 47.8 | - |  |   | 5.97E+10 |   |   |
| Townsville | CB56 | K74948 | 55.7 | - |  | 131.6 | 9.95E+05 |  | 0.000264 |
| Townsville | CB57 | QA36799 | 50.4 | - |  | 1.42E+05 | 1.44E+11 |   | 1.97E-06 |
| Townsville | CB58 | QA36776 | 93.2 | - |  |  | 3.81E+10 |  |  |
| Townsville | CB59 | QA36778 | 108.1 | - |  |   | 1.46E+11 |   |   |
| Townsville | CB60 | K92989 | 68.7 | - | 106.6 |  | 6.84E+09 | 3.12E-08 |  |
| Bowen | BW02 | QA15707 | 46.8 | 10.8 |  |   | 3.23E+05 |   |   |
| Bowen | BW03 | QA29729 | 45.9 | 11.4 |  |  | 1.18E+06 |  |  |
| Bowen | BW04 | QA36605 | 113.9 | 130+ |  |   | 7.21E+05 |   |   |
| Bowen | BW05 | QA15776 | 45.0 | 8.7 | 1424 |  | 1.69E+05 | 0.016902 |  |
| Bowen | BW06 | QA15785 | 49.1 | 10.5 |  |   | 1.07E+05 |   |   |
| Bowen | BW07 | K59353 | 60.6 | 21.9 | 12.63 |  | 1.45E+05 | 0.000175 |  |
| Bowen | BW08 | K59391 | 45.5 | 9.5 | 93.03 |   | 1.58E+05 | 0.001181 |   |
| Bowen | BW09 | K92959 | 42.5 | 7.7 |  |  | 1.90E+05 |  |  |
| Bowen | BW10 | QA15796 | 54.0 | 17.5 | 25.13 |   | 3.04E+05 | 0.000165 |   |
| Bowen | BW11 | QA36603 | 80.5 | 48.0 |  |  | 4.39E+05 |  |  |
| Bowen | BW12 | QA36606 | 85.7 | 61.0 |  | 164.4 | 3.93E+05 |   | 0.000838 |
| Bowen | BW13 | QA15777 | 44.4 | 7.9 |  |  | 6.11E+05 |  |  |
| Bowen | BW14 | QA32125 | 42.3 | 9.1 |  |   | 2.13E+05 |   |   |
| Bowen | BW15 | QA32123 | 48.1 | 12.6 |  |  | 1.58E+05 |  |  |
| Bowen | BW16 | QA15968 | 47.0 | 11.6 |  |   | 1.64E+05 |   |   |
| Bowen | BW17 | K52467 | 58.5 | 22.2 | 1.36E+04 |  | 2.38E+05 | 0.114262 |  |
| Bowen | BW18 | K94004 | 63.0 | 25.1 | 6286 |   | 8.93E+04 | 0.140863 |   |
| Bowen | BW19 | K92945 | 46.0 | 10.2 | 67.85 |  | 4.44E+04 | 0.003056 |  |
| Bowen | BW20 | QA15794 | 49.0 | 12.1 | 11.21 |   | 5.08E+04 | 0.000442 |   |
| Bowen | BW21 | QA15782 | 58.0 | 19.3 | 105.2 |  | 1.82E+05 | 0.001154 |  |
| Bowen | BW22 | QA15799 | 64.0 | 23.6 | 100.2 |   | 2.54E+05 | 0.00079 |   |
| Bowen | BW23 | K97074 | 97.0 | 97.1 |  | 4129 | 3.86E+05 |  | 0.021394 |
| Bowen | BW24 | QA15769 | 97.0 | 100.2 | 12.95 |   | 5.81E+05 | 4.46E-05 |   |
| Bowen | BW25 | K97161 | 89.0 | 74.8 |  | 29.07 | 1.29E+06 |  | 4.50E-05 |
| Bowen | BW26 | QA15732 | 82.3 | 60.8 |  | 46.72 | 7.40E+04 |   | 0.001263 |
| Bowen | BW27 | QA10912 | 103.3 | 126.5 | 21.16 |  | 3.20E+05 | 0.000132 |  |
| Bowen | BW28 | QA15748 | 97.5 | 94.0 | 504.9 |   | 1.00E+06 | 0.001006 |   |
| Bowen | BW29 | QA15746 | 106.5 | 134.3 |  |  | 1.21E+05 |  |  |
| Bowen | BW30 | K97284 | 53.8 | 13.3 | 13.29 | 8401 | 1.43E+05 | 0.000185 | 0.117251 |
| Bowen | BW31 | QA15733 | 64.5 | 30.9 |  |  | 6.00E+05 |  |  |
| Bowen | BW32 | QA15766 | 43.7 | 8.5 |  |   | 1.37E+05 |   |   |
| Bowen | BW33 | QA15740 | 65.9 | 29.5 |  |  | 1.19E+05 |  |  |
| Bowen | BW34 | K59377 | 44.5 | 10.1 |  | 17.18 | 7.21E+04 |   | 0.000476 |
| Bowen | BW35 | QA15717 | 47.6 | 10.3 |  |  | 2.60E+05 |  |  |
| Bowen | BW36 | QA15709 | 44.4 | 8.3 | 38.34 | 11.1 | 1.51E+05 | 0.000506 | 0.000147 |
| Bowen | BW37 | K59378 | 47.5 | 12.2 | 208.2 |  | 1.55E+05 | 0.00268 |  |
| Bowen | BW38 | QA15718 | 49.2 | 13.7 | 276.1 |   | 2.47E+05 | 0.00224 |   |
| Bowen | BW39 | QA15770 | 44.5 | 8.2 | 54.92 |  | 3.59E+05 | 0.000306 |  |
| Bowen | BW40 | QA15775 | 43.5 | 10.0 |  |   | 2.92E+05 |   |   |
| Bowen | BW41 | QA15747 | 45.1 | 10.0 | 18.55 |  | 1.52E+05 | 0.000244 |  |
| Bowen | BW42 | QA15710 | 56.5 | 16.9 |  |   | 1.02E+09 |   |   |
| Bowen | BW43 | QA15764 | 47.5 | 12.5 | 27.08 |  | 7.30E+08 | 7.42E-08 |  |
| Bowen | BW44 | QA15767 | 49.3 | 13.9 |  |   | 6.14E+08 |   |   |
| Bowen | BW45 | K97135  | 46.8 | 12.5 | 129.3 | 1143 | 1.11E+08 | 2.34E-06 | 2.07E-05 |
| Bowen | BW46 | QA15731 | 55.0 | 19.9 | 3.66E+04 |   | 2.26E+08 | 0.000324 |   |
| Bowen | BW47 | QA15736 | 41.2 | 7.4 | 46.8 |  | 1.15E+07 | 8.13E-06 |  |
| Bowen | BW48 | K59376 | 57.5 | 18.9 | 696.7 |   | 9.07E+08 | 1.54E-06 |   |
| Bowen | BW49 | QA15771 | 47.4 | 11.2 | 108.4 |  | 1.85E+09 | 1.18E-07 |  |
| Bowen | BW50 | K59383 | 45.8 | 9.9 | 75.02 |   | 1.04E+08 | 1.44E-06 |   |
| Bowen | BW51 | K59381 | 48.4 | 13.0 | 111.8 |  | 3.82E+07 | 5.85E-06 |  |
| Bowen | BW52 | QA32101 | 44.7 | 10.5 | 275.4 |   | 8.65E+07 | 6.37E-06 |   |
| Bowen | BW53 | QA29752  | 42.7 | 9.8 | 1043 |  | 1.74E+08 | 1.20E-05 |  |
| Bowen | BW54 | K52467  | 57.4 | 21.8 | 194.3 |   | 3.27E+08 | 1.19E-06 |   |
| Bowen | BW55 | QA15783 | 44.8 | 11.8 | 186.7 |  | 5.59E+08 | 6.69E-07 |  |
| Bowen | BW56 | K52461 | 61.5 | 28.0 |  |   | 1.64E+09 |   |   |
| Bowen | BW57 | K59382 | 58.0 | 22.0 | 973.7 |  | 4.89E+08 | 3.98E-06 |  |
| Bowen | BW58 | QA36658 | 44.1 | 10.0 | 112.1 |   | 2.58E+09 | 8.70E-08 |   |
| Bowen | BW59 | QA36604 | 46.8 | 11.0 |  |  | 1.66E+08 |  |  |
| Bowen | BW60 | QA36612 | 93.5 | 86.0 | 35.99 |   | 4.64E+07 | 1.55E-06 |   |
| Bowen | BW61 | QA36655 | 45.5 | 12.0 |  |  | 3.55E+08 |  |  |
| Bowen | BW62 | QA36820 | 46.7 | 13.0 | 61.73 |   | 1.27E+09 | 9.75E-08 |   |
| Bowen | BW63 | QA32124 | 57.0 | 22.5 | 539.8 | 952.4 | 7.63E+07 | 1.42E-05 | 2.50E-05 |
| Bowen | BW64 | QA24108 | 48.6 | 12.6 | 1.02E+04 |   | 4.74E+08 | 4.31E-05 |   |
| Bowen | BW65 | QA29731 | 65.6 | 34.5 | 220.7 | 11.16 | 4.91E+08 | 9.00E-07 | 4.55E-08 |
| Bowen | BW66 | QA15716 | 67.8 | 34.0 | 29.72 |   | 2.00E+08 | 2.97E-07 |   |
| Bowen | BW67 | QA36625 | 55.1 | 23.0 | 1318 |  | 5.57E+08 | 4.73E-06 |  |
| Bowen | BW68 | QA32120 | 56.5 | 20.4 | 1848 |   | 6.34E+08 | 5.83E-06 |   |
| Bowen | BW69 | QA29745 | 50.6 | 14.5 | 3.36E+05 |  | 6.83E+08 | 0.000983 |  |
| Bowen | BW70 | QA36611 | 51.6 | 14.5 |  |   | 4.33E+08 |   |   |
| Bowen | BW71 | QA32122 | 37.2 | 13.1 | 91.59 |  | 1.86E+07 | 9.83E-06 |  |
| Bowen | BW72 | QA36608 | 43.7 | 12.5 | 467.6 |   | 4.80E+08 | 1.95E-06 |   |
| Bowen | BW73 | QA36656 | 43.5 | 10.2 | 86.26 |  | 3.95E+08 | 4.37E-07 |  |
| Bowen | BW74 | QA29730 | 44.2 | 10.7 | 933.8 |   | 6.39E+08 | 2.92E-06 |   |
| Bowen | BW75 | QA36676 | 44.3 | 9.5 | 52.07 |  | 1.28E+08 | 8.16E-07 |  |
| Bowen | BW76 | QA36679 | 45.8 | 9.0 | 96.83 |   | 3.15E+08 | 6.15E-07 |   |
| Bowen | BW77 | QA36677 | 43.0 | 10.0 | 33.6 | 484.6 | 4.24E+07 | 1.59E-06 | 2.29E-05 |
| Bowen | BW78 | QA36684 | 51.4 | 16.0 | 253.5 |   | 7.92E+07 | 6.40E-06 |   |
| Bowen | BW79 | QA15641  | 53.6 | 17.6 | 2009 |  | 6.74E+08 | 5.96E-06 |  |
| Bowen | BW80 | QA32109 | 43.7 | 20.6 |  | 1.97E+04 | 1.10E+09 |   | 3.60E-05 |
| Bowen | BW81 | QA32104 | 47.5 | 21.6 | 28.97 |  | 3.33E+08 | 1.74E-07 |  |
| Gladstone | GS01 | QA33350 | 42.1 | 7.5 |  |   | 2.51E+10 |   |   |
| Gladstone | GS02 | QA33349 | 42.5 | 8.9 |  | 3.64E+04 | 4.13E+12 |  | 1.76E-08 |
| Gladstone | GS03 | QA33342 | 111.0 | 153.0 |  | 2217 | 7.47E+11 |   | 5.93E-09 |
| Gladstone | GS04 | QA33363 | 107.4 | 141.0 |  | 1579 | 7.07E+12 |  | 4.47E-10 |
| Gladstone | GS05 | QA33340 | 96.3 | 97.0 |  | 36.32 | 1.56E+12 |   | 4.66E-11 |
| Gladstone | GS06 | QA33373 | 99.4 | 117.0 |  |  | 2.13E+12 |  |  |
| Gladstone | GS07 | QA33352 | 88.3 | 94.0 |  | 601.9 | 6.42E+10 |   | 1.88E-08 |
| Gladstone | GS08 | QA33341 | 95.1 | 88.0 |  | 1186 | 4.72E+11 |  | 5.03E-09 |
| Gladstone | GS09 | QA33332 | 79.6 | 55.0 |  | 327.7 | 2.47E+12 |   | 2.66E-10 |
| Gladstone | GS10 | QA33330 | 98.0 | 108.0 |  | 666.4 | 2.52E+12 |  | 5.29E-10 |
| Gladstone | GS11 | QA33357 | 106.0 | 128.0 |  | 6170 | 1.28E+12 |   | 9.66E-09 |
| Gladstone | GS12 | QA33343 | 95.4 | 97.0 |  | 2.19E+05 | 1.82E+12 |  | 2.40E-07 |
| Gladstone | GS13 | QA39981 | 100.3 | 103.0 |  | 5.44E+04 | 2.12E+12 |   | 5.12E-08 |
| Gladstone | GS14 | QA33354 | 87.1 | 66.0 |  | 183.2 | 3.24E+12 |  | 1.13E-10 |
| Gladstone | GS15 | QA33333 | 79.7 | 53.5 |  | 1845 | 4.44E+12 |   | 8.31E-10 |
| Gladstone | GS16 | QA33329 | 63.9 | 30.0 |  |  | 5.01E+12 |  |  |
| Gladstone | GS17 | QA34529 | 47.9 | 11.8 |  |   | 3.38E+14 |   |   |
| Gladstone | GS18 | QA33337 | 48.5 | 14.1 |  |  | 2.70E+10 |  |  |
| Gladstone | GS19 | QA33370 | 47.5 | 11.4 |  | 536.4 | 1.21E+07 |   | 8.87E-05 |
| Gladstone | GS20 | QA33365 | 60.0 | 22.9 |  |  | 2.38E+11 |  |  |
| Gladstone | GS21 | QA33368 | 46.0 | 11.8 |  |   | 9.38E+07 |   |   |
| Gladstone | GS22 | QA33367 | 52.1 | 17.0 |  |  | 5.77E+12 |  |  |
| Gladstone | GS23 | QA33375 | 49.1 | 14.7 |  | 216.3 | 3.52E+08 |   | 1.23E-06 |
| Gladstone | GS24 | K70229 | 105.7 | 142.0 |  | 110.9 | 4.51E+12 |  | 4.92E-11 |
| Gladstone | GS25 | QA43067 | 105.7 | 140.0 |  |   | 176742.8 |   |   |
| Gladstone | GS26 | QA43063 | 93.5 | 93.0 |  |  | 162074.6 |  |  |
| Gladstone | GS27 | QA43068 | 96.1 | 106.0 |  |   | 254332.9 |   |   |
| Gladstone | GS28 | QA43065 | 97.7 | 96.0 |  |  | 2.52E+12 |  |  |
| Gladstone | GS29 | QA43056 | 52.7 | 17.8 |  |   | 1.28E+12 |   |   |
| Gladstone | GS30 | QA43061 | 84.3 | 75.0 |  |  | 1.82E+12 |  |  |
| Gladstone | GS31 | QA43060 | 74.8 | 45.0 |  |   | 5.56E+13 |   |   |
| Gladstone | GS32 | QA43055 | 85.1 | 75.0 |  |  | 1.54E+12 |  |  |
| Gladstone | GS33 | QA43058 | 88.7 | 72.0 |  | 14.38 | 1.15E+12 |   | 2.49E-11 |
| Gladstone | GS34 | QA43059 | 99.5 | 120.0 |  |  | 7.55E+11 |  |  |
| Gladstone | GS35 | QA27998 | 41.6 | 7.6 | 385.5 |   | 1.31E+10 | 5.89E-08 |   |
| Gladstone | GS36 | QA43053 | 44.5 | 8.6 | 6688 |  | 1.90E+11 | 7.05E-08 |  |
| Gladstone | GS37 | QA27997 | 60.0 | 19.0 | 141.9 |   | 4.15E+10 | 6.84E-09 |   |
| Gladstone | GS38 | QA43044 | 43.1 | 6.5 |  |  | 5.37E+09 |  |  |
| Gladstone | GS39 | QA43043 | 42.6 | 6.2 |  |   | 4.01E+10 |   |   |
| Gladstone | GS40 | QA43023 | 102.7 | 131.0 |  |  | 1.04E+12 |  |  |
| Gladstone | GS41 | QA43031 | 59.8 | 26.0 |  |   | 7.64E+09 |   |   |
| Gladstone | GS42 | QA43022 | 90.6 | 82.0 |  | 18.86 | 1.09E+10 |  | 3.45E-09 |
| Gladstone | GS43 | QA43033 | 56.0 | 21.0 |  | 169.2 | 2.59E+09 |   | 1.31E-07 |
| Gladstone | GS44 | QA43036 | 80.6 | 64.0 | 66.39 | 8356 | 2.12E+09 | 6.27E-08 | 7.89E-06 |
| Gladstone | GS45 | QA43041 | 94.3 | 92.0 |  | 850.8 | 3.37E+09 |   | 5.05E-07 |
| Gladstone | GS46 | QA43003 | 43.3 | 8.8 |  | 86.45 | 5.58E+07 |  | 3.10E-06 |
| Gladstone | GS47 | QA43004 | 93.8 | 104.0 |  |   | 7.38E+09 |   |   |
| Gladstone | GS48 | QA43035 | 64.6 | 32.0 |  |  | 9.29E+09 |  |  |
| Gladstone | GS49 | QA34580 | 46.2 | 10.8 | 62.42 |   | 6.22E+06 | 2.01E-05 |   |
| Gladstone | GS50 | QA34576 | 43.4 | 9.9 | 593.1 |  | 1.09E+10 | 2.09E-03 |  |

Table S The average copy number of ChHV5 in various units calculated in different studies in comparison to the current study

The copy number per reaction of GAPDH is consistent in samples from green turtles with and without FP tumours. In other words, there is no significant difference between the quantities of tissues used for the qPCR reactions and subsequently viral load comparison (P value: 0.282). As the starting tissue mass appeared to be similar in samples, after calculating the DNA extraction elute volume (50µL of extracted DNA in DNase free water to 20µL of PCR reaction) the estimated mean of ChHV5 viral loads appears to be approximately 3.707×105 copies/µL of DNA extract from tumour tissues. This unit calculation enabled us to compare our results of ChHV5 viral loads with previous studies that used different protocols and calculated copies/cell, copies/µL of samples in PCR reaction or copies/µgr of DNA (Table S7). Overall, the results in this study are consistent with studies in other regions.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Quackenbush *et al.,* 2001 | Greenblatt, *et al.,* 2005 | Page-Karjian *et al.,* 2015 | Alfaro-Núñez *et al.,* 2016 | Current study |
| FP-afflicted turtles | FP Tumour Samples (Group A in the present study) | Copies/cell | 15.21 | 13.9 | - | 15.61 ± 12.5 | 15.635± 30.152 |
| copies/µL of samples in PCR reaction | - | - | - | 4.9×104 | 4.297×105 |
| copies/µg of DNA | 3.3× 104 to 4.9× 106 | - | 3.24 × 108 (1.6 × 103 -2.0 × 109) | - | 5.367×105 |
| Non-tumoured skin from turtles with FP tumours(Group B in the present study) | Copies/cell | - | 0.03$ | - | 0.02 ± 0.00 | 0.020± 0.0379 |
| copies/µL of samples in PCR reaction | - | - | - | 1.8×101 | 1.818×102 |
| copies/µg of DNA | 122 ± 82.67 | - | 22722(2.5 × 102 - 7.1 × 104) | - | 2.272×103 |
| Non-tumoured turtles(Group C in the present study) | Copies/cell | - | - | - | 6.03 | 0.100± 0.606 |
| copies/µL of samples in PCR reaction | - | - | - | 5.8×104 | 2.614×103 |
| copies/µg of DNA | - | - | 5463(6.0 × 102 - 1.7 × 104) | - | 3.269×103 |