# Catanionic vesicles charged with chloroaluminium phthalocyanine for topical photodynamic therapy: In vitro phototoxicity on human oral carcinoma and melanoma cell lines 

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Characterization of TriCat non-loaded vesicles


Figure S1. TEM snapshot and size distribution of catanionic vesicles of TriCat prepared at $25^{\circ} \mathrm{C}\left(1 \times 10^{-4} \mathrm{M}\right)$.

Photocytotoxicity assays: Values of toxicity
Following tables give exact values of mean and SEM obtained from cytotoxicity assays performed on B16-F10 and OSCC under several light doses.

B16-F10
Cells pre-incubated with TriCat/CIAIPc vesicles

| Light dose $\left(\mathrm{J} \mathrm{cm}^{-2}\right)$ | 0.5 | 1.0 | 2.5 | 5.0 | 10 | 15 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Cell viability $(\%)$ | 65.76 | 41.77 | 27.27 | 14.08 | 7.56 | 1.94 |
| SEM of cell viability (\%) | 1.06 | 9.57 | 7.25 | 5.38 | 2.83 | 0.17 |



Figure SI.2. Histogram presenting viability rates of B16-F10 under light irradiation. after pre-incubation with TriCat/CIAIPc vesicles.

## OSCC

Cells pre-incubated with TriCat/CIAIPc vesicles

| Light dose $\left(\mathrm{J} \mathrm{cm}^{-2}\right)$ | 0.5 | 1.0 | 2.5 | 5.0 | 10 | 15 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Cell viability $(\%)$ | 50.20 | 62.06 | 33.80 | 18.17 | 10.21 | 5.73 |
| SEM of cell viability $(\%)$ | 2.77 | 0.98 | 4.40 | 4.57 | 0.64 | 1.00 |



Figure SI.3. Histogram presenting viability rates of OSCC under light irradiation. after pre-incubation with TriCat/CIAIPc vesicles.

## Photocytotoxicity assays: Statistical analysis

Statistical analysis was performed using Prism 4.0® (GraphPad Software) by one-way ANOVA and Tukey test. All data were expressed as the mean $\pm$ SEM of three independent experiments, obtained on samples provided by independent sources. Statistical significance for this study was considered at p $<0.05$.

## B16-F10

Table Analyzed
Results for B16-F10
One-way analysis of variance

| $P$ value | $\mathrm{P}<0.0001$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| $P$ value summary | *** |  |  |  |
| Are means signif. different? ( $\mathrm{P}<0.05$ ) | Yes |  |  |  |
| Number of groups | 7 |  |  |  |
| F | 48.23 |  |  |  |
| R squared | 0.9539 |  |  |  |
| ANOVA Table | SS | Df | MS |  |
| Treatment (between columns) | 22600 | 6 | 3767 |  |
| Residual (within columns) | 1094 | 14 | 78.11 |  |
| Total | 23700 | 20 |  |  |
| Tukey's Multiple Comparison Test | Mean Diff. | Q | $P$ value | 95\% CI of diff |
| CT vs 0.5 | 34.24 | 6.710 | $\mathrm{P}<0.01$ | 9.599 to 58.88 |
| CT vs 1.0 | 58.23 | 11.41 | $\mathrm{P}<0.001$ | 33.59 to 82.87 |
| CT vs 2.5 | 72.73 | 14.25 | $\mathrm{P}<0.001$ | 48.09 to 97.37 |
| CT vs 5.0 | 85.92 | 16.84 | $\mathrm{P}<0.001$ | 61.28 to 110.6 |
| CT vs 10 | 92.44 | 18.12 | $\mathrm{P}<0.001$ | 67.80 to 117.1 |
| CT vs 15 | 98.06 | 19.22 | $\mathrm{P}<0.001$ | 73.42 to 122.7 |
| 0.5 vs 1.0 | 23.99 | 4.701 | $\mathrm{P}>0.05$ | -0.6512 to 48.63 |
| 0.5 vs 2.5 | 38.49 | 7.543 | $\mathrm{P}<0.01$ | 13.85 to 63.13 |
| 0.5 vs 5.0 | 51.68 | 10.13 | $\mathrm{P}<0.001$ | 27.04 to 76.32 |
| 0.5 vs 10 | 58.20 | 11.40 | $\mathrm{P}<0.001$ | 33.56 to 82.84 |
| 0.5 vs 15 | 63.82 | 12.51 | $\mathrm{P}<0.001$ | 39.18 to 88.46 |
| 1.0 vs 2.5 | 14.50 | 2.842 | $\mathrm{P}>0.05$ | -10.14 to 39.14 |
| 1.0 vs 5.0 | 27.69 | 5.427 | $\mathrm{P}<0.05$ | 3.052 to 52.33 |
| 1.0 vs 10 | 34.21 | 6.704 | $\mathrm{P}<0.01$ | 9.565 to 58.85 |
| 1.0 vs 15 | 39.83 | 7.806 | $\mathrm{P}<0.01$ | 15.19 to 64.47 |
| 2.5 vs 5.0 | 13.19 | 2.586 | $\mathrm{P}>0.05$ | -11.45 to 37.83 |
| 2.5 vs 10 | 19.71 | 3.862 | $P>0.05$ | -4.935 to 44.35 |
| 2.5 vs 15 | 25.33 | 4.965 | $\mathrm{P}<0.05$ | 0.6921 to 49.97 |
| 5.0 vs 10 | 6.513 | 1.276 | $\mathrm{P}>0.05$ | -18.13 to 31.15 |
| 5.0 vs 15 | 12.14 | 2.379 | $P>0.05$ | -12.50 to 36.78 |
| 10 vs 15 | 5.627 | 1.103 | P > 0.05 | -19.01 to 30.27 |

## OSCC

Table Analyzed
Results for OSCC
One-way analysis of variance
$P$ value
$P$ value summary
Are means signif. different? ( $\mathrm{P}<0.05$ )
Number of groups
$\mathrm{P}<0.0001$
***
Yes
7

F
R squared

ANOVA Table
Treatment (between columns)
Residual (within columns)
Total
Total

| Tukey's Multiple Comparison Test | Mean Diff. | q | P value | $95 \%$ Cl of diff |
| :--- | :--- | :--- | :--- | :--- |
| CT vs 0.5 | 49.80 | 18.58 | $\mathrm{P}<0.001$ | 36.86 to 62.74 |
| CT vs 1.0 | 37.94 | 14.16 | $\mathrm{P}<0.001$ | 25.00 to 50.88 |
| CT vs 2.5 | 66.20 | 24.70 | $\mathrm{P}<0.001$ | 53.26 to 79.14 |
| CT vs 5.0 | 81.83 | 30.53 | $\mathrm{P}<0.001$ | 68.89 to 94.78 |
| CT vs 10 | 89.79 | 33.50 | $\mathrm{P}<0.001$ | 76.84 to 102.7 |
| CT vs 15 | 94.27 | 35.17 | $\mathrm{P}<0.001$ | 81.32 to 107.2 |
| 0.5 vs 1.0 | -11.86 | 4.425 | $\mathrm{P}>0.05$ | -24.80 to 1.082 |
| 0.5 vs 2.5 | 16.40 | 6.119 | $\mathrm{P}<0.01$ | 3.458 to 29.34 |
| 0.5 vs 5.0 | 32.03 | 11.95 | $\mathrm{P}<0.001$ | 19.09 to 44.98 |
| 0.5 vs 10 | 39.99 | 14.92 | $\mathrm{P}<0.001$ | 27.04 to 52.93 |
| 0.5 vs 15 | 44.47 | 16.59 | $\mathrm{P}<0.001$ | 31.52 to 57.41 |
| 1.0 vs 2.5 | 28.26 | 10.54 | $\mathrm{P}<0.001$ | 15.32 to 41.20 |
| 1.0 vs 5.0 | 43.89 | 16.38 | $\mathrm{P}<0.001$ | 30.95 to 56.84 |
| 1.0 vs 10 | 51.85 | 19.35 | $\mathrm{P}<0.001$ | 38.90 to 64.79 |
| 1.0 vs 15 | 56.33 | 21.02 | $\mathrm{P}<0.001$ | 43.38 to 69.27 |
| 2.5 vs 5.0 | 15.63 | 5.833 | $\mathrm{P}<0.05$ | 2.691 to 28.58 |
| 2.5 vs 10 | 23.59 | 8.801 | $\mathrm{P}<0.001$ | 10.64 to 36.53 |
| 2.5 vs 15 | 28.07 | 10.47 | $\mathrm{P}<0.001$ | 15.12 to 41.01 |
| 5.0 vs 10 | 7.953 | 2.968 | $\mathrm{P}>0.05$ | -4.989 to 20.90 |
| 5.0 vs 15 | 12.43 | 4.639 | $\mathrm{P}>0.05$ | -0.5086 to 25.38 |
| 10 vs 15 | 4.480 | 1.672 | $\mathrm{P}>0.05$ | -8.462 to 17.42 |

