PHYTOCEE®

# Antioxidant Potential of PHYTOCEE®: Cellular Antioxidant Activity (CAA) Assay

## OBJECTIVE

To evaluate the antioxidant potential of PHYTOCEE®

## MATERIALS AND METHODS

The cellular antioxidant activity (CAA) assay was carried out using HepG2 cells as per the standard method. In this assay, different concentrations of PHYTOCEE® was used. Quercetin (2–10 µM) was used as reference standard. The fluorescence intensity was measured for 1 h at 37°C, Excitation 485 nm, Emission 540 nm with a cycle time 300 s. After blank subtraction from the fluorescent readings, the area under curve (AUC) of fluorescence versus time was integrated to calculate the CAA value at each concentration. EC50 was calculated.

## RESULTS

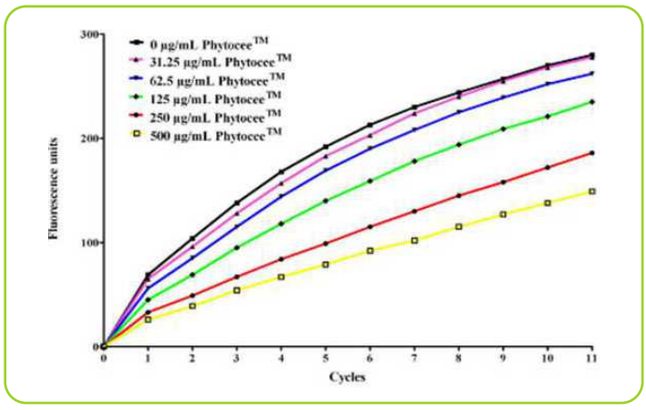


**Figure 1: Peroxyl radical-induced oxidation of DCFH to DCF in HepG2 cells and the inhibition of oxidation by PHYTOCEE® over time**

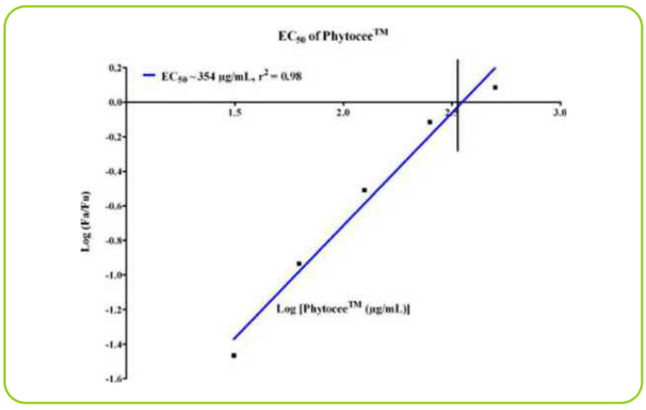


**Figure 2. Median effect plot for inhibition of peroxyl radical-induced DCFH oxidation by PHYTOCEE®**

DCF, 2′ 7′-dichlorofluorescin

DCFH, 2′ 7′-dichlorofluorescin diacetate

**Effect of PHYTOCEE® on CAA assay**

| Concentration | AUC | | CAA unit | |
|---|---|---|---|---|
| | Phytocee™ | Quercetin | Phytocee™ | Quercetin |
| 0 | 2025 | 2304 | – | – |
| 2 µM | – | 2194.5 | – | 5 |
| 4 µM | – | 1558.5 | – | 32 |
| 6 µM | – | 792 | – | 66 |
| 8 µM | – | 496.5 | – | 78 |
| 10 µM | – | 342 | – | 85 |
| 31.25 µg/mL | 1958 | – | 3 | – |
| 62.5 µg/mL | 1814 | – | 10 | – |
| 125 µg/mL | 1546 | – | 24 | – |
| 250 µg/mL | 1145 | – | 43 | – |
| 500 µg/mL | 913.5 | – | 55 | – |

AUC, area under curve; CAA, cellular antioxidant activity

## CONCLUSIONS

PHYTOCEE® confirmed that it was a good peroxyl radical scavenger with EC50 value of ~354 µg/mL.

## OUTCOME

Hence, PHYTOCEE® was proven to possess antioxidant properties.