

## DETECTION LIMIT OF A LUMINESCENCE ASSAY

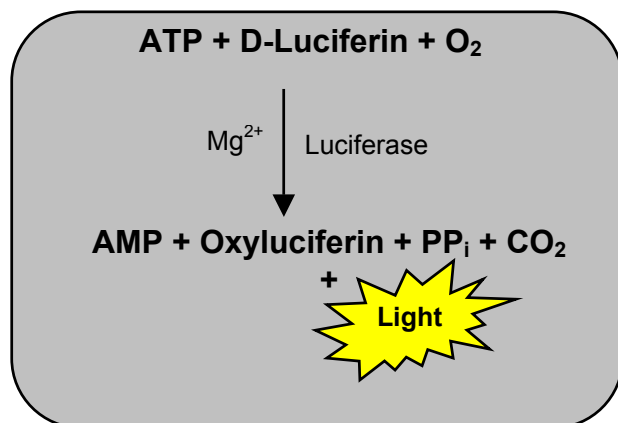
### CheckLite HS Set (Kikkoman)

#### Introduction

Plate CHAMELEON as a luminometer gives you fast and sensitive results for luminescence assays. Instrument supports both glow and flash-type reagents.

#### Principles of the test

The bioluminescence reagent contains firefly luciferin and luciferase. Luciferase specifically reacts with ATP and catalyzes the following reaction.



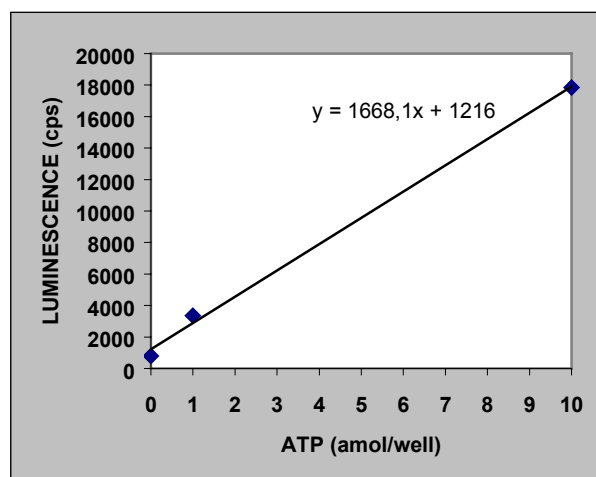
The amount of bioluminescence produced in the reaction is in directly proportional to the amount of the ATP in the sample.

#### Assay Procedure on Plate CHAMELEON™

In this test the detection limit of the assay was measured on Plate CHAMELEON by preparing a set of dilutions containing varying amounts of ATP. 100 µL of ATP solutions was dispensed to wells and the background luminescence was measured in **LumGlow** mode (counting time 1 s). Then 100 µL of Luciferin-Luciferase reagent was added and luminescence was measured again.

#### Results

The background signals were subtracted from the counts measured for the test solutions. The average counts (cps) and standard deviation were calculated for the blank solution with no ATP (8 replicates). The detection limit determined as the amount of ATP at X+3SD signal value was read off from the regression line.



**Figure.** Linear regression line at low range of std curve (0, 10<sup>-18</sup> and 10<sup>-17</sup> amol of ATP/well).

The calculated **detection limit is 0.16 amol/well.**

#### Conclusions

The CheckLite HS offers a very sensitive and easy to use ATP Assay on Plate CHAMELEON.

#### Materials required

Plate CHAMELEON™  
CheckLite HS Set, Kikkoman Corp. (Code 61310)  
96-well Luminescence Microtiter plate

#### Product Information

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