Cell Viability using
Fluorescein Diacetate (FDA)
(Greg Perry, Ph.D.)

Equipment:

- Micropipettes & tips
- 12x75mm Test Tubes
- Fluorescence Microscope
- Hemacytometer

Reagents:

- Fluorescein Diacetate Stock (5mg/ml)
- Buffered Saline (PBS, HBSS, DPBS, etc.)
- Cell preparation (at approximately 10^6/ml)

Method:

1) Dilute FDA stock (@ 5mg/ml) 1:50 in PBS in a 12x75mm test tube (2μl FDA stock + 98μl PBS).
2) Immediately add 2μl of diluted FDA to 18μl of cell suspension in a clean 12x75mm test tube.
3) Incubate 15 minutes at 37°C.
4) Load 10μl of stained cells onto hemacytometer.
5) Examine using a fluorescence microscope. Live cells will appear bright green.

Notes:

a) Viable cells can cleave the FDA and therefore appear bright green. Dead cells don’t have available ATP to cleave the FDA and remain unlabeled.

b) Cells can also be examined on a flow cytometer for viability, although a negative control sample (not stained with FDA) should be run for comparison.