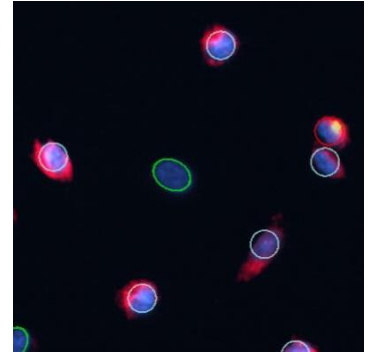


## Virtual Cytoplasm (2F)

### General Purpose

Virtual Cytoplasm (2F) is a three channel fluorescence application which uses a nuclei staining (e.g. Hoechst or Dapi) to locate an individual cell and two functional fluorescence staining to distinguish between four different populations. These two functional fluorescence markers can be chosen according to your biological demands.



Short Note  
SN-F341-XVII-04

- E.g. Apoptosis Test
- 1) Staining with Hoechst to count the whole cell population
  - 2) JC-1 green to detect dead cells
  - 3) Red J-aggregates to detect viable cells

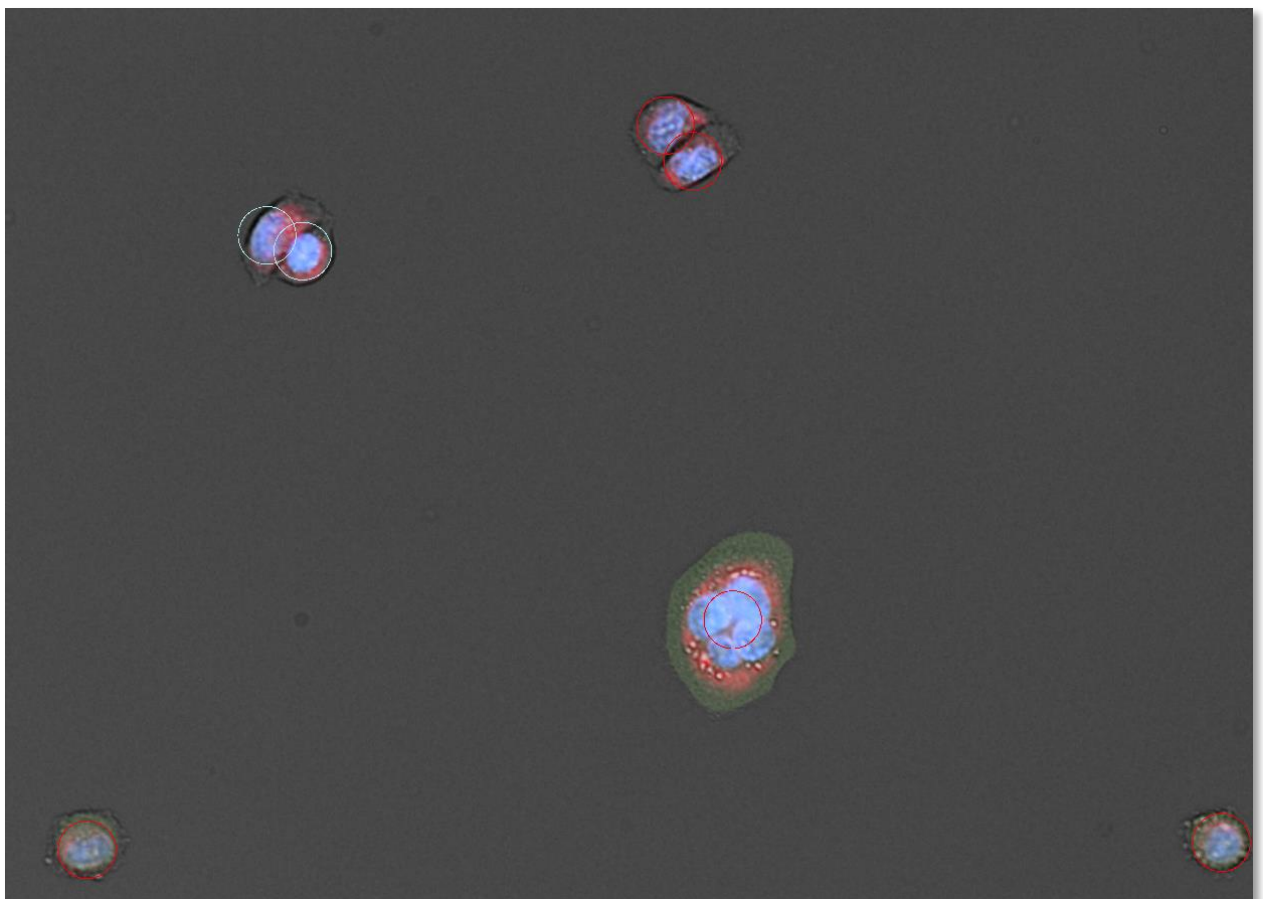
The major **advantage** of this application is the ability to detect co-localized fluorescence markers regardless of the biological background.

### Result Table

• <i>Nuclei Count</i>	<i>Sum of Cells</i>
• <i>F1 Marker positive</i>	<i>Cells containing fluorescence marker of channel 1</i>
• <i>F2 Marker positive</i>	<i>Cells containing fluorescence marker of channel 2</i>
• <i>F1 Marker positive percent</i>	<i>Percentage of cells marked with F1</i>
• <i>F2 Marker positive percent</i>	<i>Percentage of cells marked with F2</i>
• <i>TC-nn</i>	<i>Total cells unstained</i>
• <i>TC-pn</i>	<i>Total cells stained with F1 but <u>not</u> stained with F2</i>
• <i>TC-np</i>	<i>Total cells with <u>no</u> F1 staining <u>but</u> stained with F2</i>
• <i>TC-pp</i>	<i>Total cells containing both stainings</i>
• <i>TC-nn percent</i>	<i>Complementary to TC-nn in percentage</i>
• <i>TC-pn percent</i>	<i>Complementary to TC-pn in percentage</i>
• <i>TC-np percent</i>	<i>Complementary to TC-np in percentage</i>
• <i>TC-pp percent</i>	<i>Complementary to TC-pp in percentage</i>
• <i>Sum of Nuclei Sizes</i>	<i>Total covered area of nuclei</i>
• <i>Avg Size Of Nuclei</i>	<i>Average size of nuclei</i>
• <i>Avg nuclei intensity</i>	<i>Average of nuclei brightness</i>

- *Avg Fluo 1 Intensity*      *Average fluorescence intensity of all detected cell areas in fluorescence channel 1*
- *Avg Fluo 2 Intensity*      *Average fluorescence intensity of all detected cell areas in fluorescence channel 2*
- *Sample Volume*              *Sample Volume per well*

## Example



The figure above illustrates a result image with two populations possible:

- **Marked green**              = TC-nn → nuclei staining only
- **Marked orange**            = TC-pn → nuclei staining AND fluorescence 1
- **Marked light blue**        = TC-np → nuclei staining AND fluorescence 2
- **Marked red**                = TC-pp → nuclei staining AND fluorescence 1 AND fluorescence 2