Fluorescence Lifetime Imaging (FLIM)
FALCON SP8

Fluorescent life time gives us more specific image than fluorescent intensity
Fluorescence polymeric thermometer (FPT) for Intracellular temperature mapping

- Temperature distributions inside a living cell reflect the thermodynamics and functions of cellular components
- Cellular pathogenesis of diseases is characterized by extraordinary heat production
- Therefore mapping of temperature in cells is important to better understand cellular events

Chemical structure of the cell-permeable fluorescent polymeric thermometer (FPT)

Functional diagram in an aqueous medium
Temperature mapping of living HeLa cells by FLIM with FPT

25°C

30°C

35°C

Fluorescence lifetime (ns)

Temperature (°C)

Fluorescence lifetime (ns)
Local temperature differences in a cell