Polymeric Capsules as multifunctional tool for intracellular ion concentration

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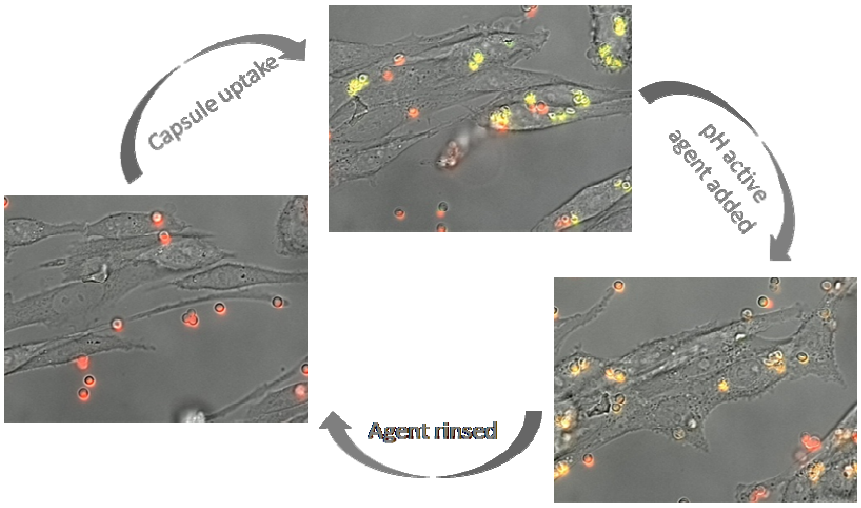
Abstract

The concept of a long-term sensor for ion changes in the lysosome is presented. The sensor is made by layer-by-layer assembly of oppositely charged polyelectrolytes around ion sensitive fluorophores, in this case for protons. The sensor is spontaneously incorporated by cells and resides over days in the lysosome. Intracellular changes of the concentration of protons upon cellular stimulation with pH active agents are monitored by read-out of the sensor fluorescence at real time. With help of this sensor concept we could demonstrate that the different agents used (Monensin, Chloroquine, Bafilomycin A1, Amiloride) possessed different kinetics and mechanisms of action in affecting the intracellular pH values.



References:

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