Conjugated Polymer Nanoparticles: Highly fluorescent imaging agents for flow cytometry and multiple other cellular applications

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Conjugated Polymer Nanoparticles (CPN) are exceptionally fluorescent molecular labelling tools that are being utilised in cellular imaging applications. Derived from visual display technology, these nanoparticles produce very intense light emission that does not photobleach and are highly stable to a wide range of pH and temperatures. The CPNs come in a range of spectral properties covering the visible spectrum and matching well to standard fluorescent filters and laser lines. The CPN can be taken up by cells through endocytosis or targeted by linking them antibodies, proteins, nucleotides or other targeting moieties. The CPNs' emission intensity make imaging techniques such as immunocytochemistry and flow cytometry highly sensitive and the CPNs' stability make the results highly reproducible. No toxicity has been in cell cultured with CPN or up to 6 days. We explore the applicability of CPNs in various cell biology system.