

Structural Properties:

CPNs™ are water-soluble micelles containing a light-emitting polymer and are approximately 70-80 nm in size. They exhibit fluorescence with peak emission wavelengths for the four polymers at 475, 510, 550 and 680 nm. Encapsulation within a biocompatible surfactant also increases its hydrophilicity. This 'core-shell' structure provides a ready base for the covalent bonding of functionalising molecules for targeting proteins or nucleic acids. CPNs™ also incorporate iron oxide into their core. This allows CPNs™ and the molecules or cells to which they are attached to be manipulated using magnets to direct movement and facilitate purification. The iron oxide can also be visualised by utilising Magnetic Resonance Imaging (MRI) as a contrast reagent.

Biological Properties:

The intense brightness of the CPNs™ dramatically increases the sensitivity of these applications, with single nanoparticles being detectable in flow cytometry and immunocytochemistry. This enables the study of individual proteins in samples and cells. The streptavidin and antibodies are covalently conjugated to the CPNs™ via the surfactant's carboxylic acid groups using N-ethyl-N'-dimethylaminopropyl-carbodiimide (EDC) chemistry. The targeted CPNs™ can be readily used in existing assays, with the increased brightness improving performance and increasing sensitivity.

Optical Properties:

The colour of light emitted by CPNs™ is dependent on the specific polymer core creating a common platform of labels across the visible spectrum. The extreme brightness and photostability of the CPNs™ results in samples retaining their fluorescence for over two years. This enables long-term analysis and sample storage under ambient temperature and lighting conditions.



streambio

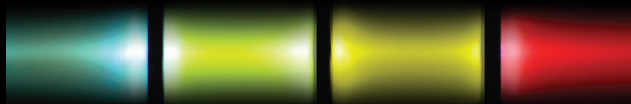
DISCOVERBRIGHT™



For a list of distributors please visit:
www.streambio.co.uk

Contact: info@streambio.co.uk

Stream Bio Ltd
NetPark Incubator,
Thomas Wright Way,
NETPark, Sedgfield,
Co Durham,
TS21 3FG. UK



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DISCOVERBRIGHT™

A new generation of non-toxic molecular bioimaging probes with a high degree of photostability, offering highly specific targeting and a magnetic core capability for both multimodal imaging and magnetic sample purification.

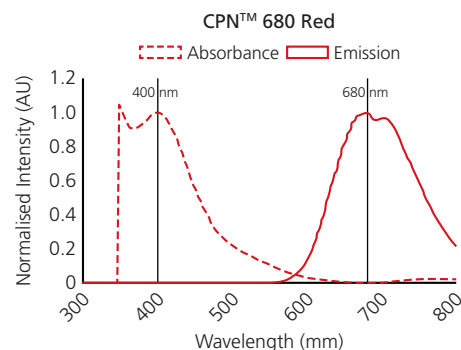
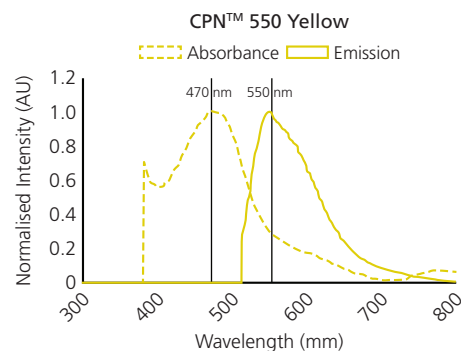
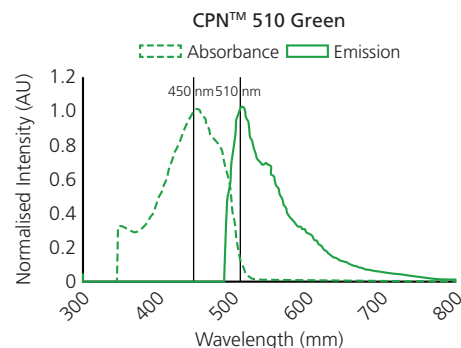
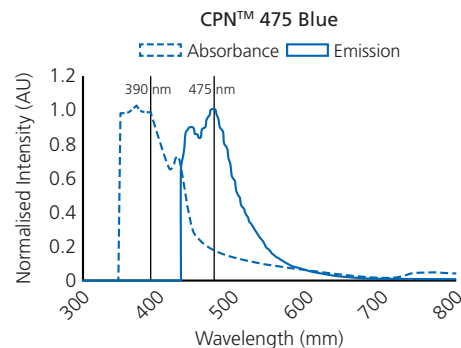
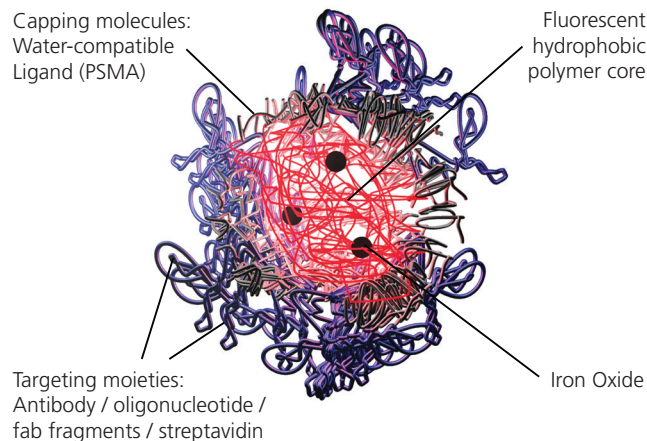
Our novel Conjugated Polymer Nanoparticles (CPN™) can be used in existing fluorescent applications without changes to lab protocols. They can be utilised in a variety of molecular imaging and R&D applications, such as flow cytometry, western blotting FRET, ELISA, FISH and IHC.



Available in four emission wavelengths:
475, 510, 550, 680 nm, including optional streptavidin coating for linkage to biotinylated molecules.

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Conjugated Polymer Nanoparticles (CPN™)



Applications

Microscopy	IHC Genetics	Molecular Imaging	Flow cytometry
FISH			Secondary Ab
DNA Extraction			FRET
Genotyping			ELISA / CALI
qPCR			Western Blotting
			Lateral flow assays

Available in four emission wavelengths:
475, 510, 550, 680 nm, including optional
streptavidin coating for linkage to
biotinylated molecules.

CPNs™ are highly stable fluorescent nanoparticles, containing a semiconductor light-emitting polymer core that is encapsulated within a surfactant.

CPNs™ have fluorescent properties that significantly exceed those of other *in vitro* labelling agents. They also have an intense brightness due to exceptional extinction coefficients.

As well as outstanding photo, chemical, and thermal stability (120°C), CPNs™ are non-toxic, making them ideal for use with live cell systems.

CPNs™ are enabled with surface accessible carboxylic groups for the conjugation of a wide range of molecules, including antibodies, streptavidin and nucleic acids, for use in a diverse array of molecular biological applications.

