Conception : service communication PULSALYS. Crédits photos : ◎ SHUTTERSTOCK

Methylene blue - phosphoramidite probes

Health / Environment / Biosensors / Food



REFERENCE

ELECTROPROBES [D00795]

KEYWORDS

BIOSENSORS / NUCLEIC ACIDS / PROBES / ELECTROCHEMISTRY



APPLICATIONS

- Oligonucleotidic probe for integration in electrochemical biosensors, for various types of analyses:
 - Health analyses: in vitro diagnosis, point of care diagnosis
 - Environment analyses
 - o Quality control in food industry



TARGET MARKETS

- Sensor component manufacturers
- Sensors integrators



INTELLECTUAL PROPERTY

Granted patent



LABORATOIRE

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DESCRIPTION

New methylene blue-based electrochemical probes, including a phosphoramidite function, have been designed for integration into oligonucleotides of interest (DNA, RNA, aptamers). Fully compatible with DNA solid support synthesis conditions, these labels can be integreted at the end and/or at any position of the oligonucleotidic chain, allowing an important number of labels to be incorporated into a single nucleic acid chain. Regarding ferrocene classical probes, this new electrochemical probe is more sensitive and more stable towards pH, oxidation.

COMPETITIVE ADVANTAGES

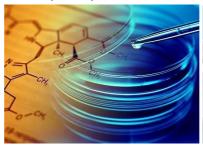
- Better performance vs ferrocene probe: multiple incorporation, either end-chain or inside a single oligonucleotidic chain
- Methylene blue probe made compatible with solid support synthesis basic conditions
- Robust probe: stability towards oxidative conditions
- Electrochemical sensitivity: transfer of twice as much electrons by oxidation wave
- Multimodal probe: electrochemistry, colorimetry
- DNA intercalating agent

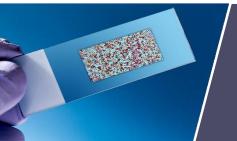
DEVELOPMENT STATUS

- Proof of concept validated with a gold electrode biosensor
- Know-how relating to synthesis, purification and grafting of probes.

PARTNERSHIP

PULSALYS is looking for industrial partners interested in using this technology through a licence agreement, and/or for codevelopment partners.





OUR OPPORTUNITIES
https://www.pulsalys.fr/our-projects/

