

NOVEL EXCIPIENT-FREE FORMULATION OF ETOPOSIDE

New etoposide formulation suitable for cancer treatments.

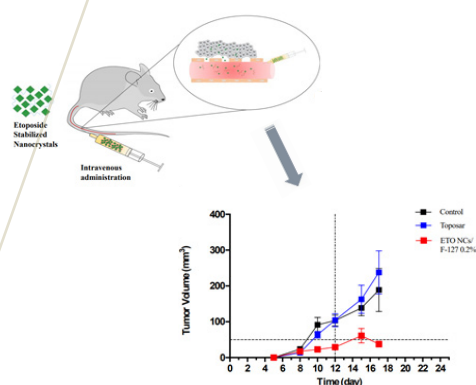
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L'AVENIR EST FAIT D'AUDACE

PRESENTATION

70% of drug molecules face problems of poor bioavailability and instability. Etoposide is a commonly used molecule to treat several cancers, which faces those problems and usual side effects. Nanotechnology applied to medicine can provide important progress, offently by improving bioavailability and dose optimization.

Researchers propose here a new formulation of etoposide, excipient-free and based on nanocrystals, improving biodisponibility & dose efficacy. POC in vivo has been established, along with PK and tissue distribution showing improved performance compared to standard Toposar formulation.



Graphical abstract

APPLICATIONS

- Cancers
- Testis embryonal carcinoma
- Acute leukemia
- Placental choriocarcinoma
- Small lung cancer
- Breast and ovarian cancer

INTELLECTUAL PROPERTY

International Patent Application in August 2019: EP2019/072873
Priority EU 08.2018, PCT 07.2019

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Etoposide - Cancer - Formulation
Excipient-free formulation - Biodisponibility

COMPETITIVE ADVANTAGES

- Low toxicity
- Better biodisponibility
- Better efficiency
- Less administration
- Suitable for different galenic forms

DEVELOPMENT PHASE

- In vitro Proof of Concept & toxicity assay (CT26, 3LL)
- In vivo pharmacokinetic assay
- Antitumoral activity with in vivo Proof of Concept (CT26 implanted subc mice)
- TRL 3

PUBLICATIONS

State of the Art of Pharmaceutical Solid Forms: From Crystal Property Issues to Nanocrystals Formulation, Couillaud, Espeau, Mignet, Corvis 2019 Jan 8;14(1):8-23. doi: 10.1002/cmdc.201800612.

Preparation of parenteral nanocrystal suspensions of etoposide from the excipient free dry state of the drug to enhance in vivo antitumoral properties ; Brice Martin, Johanne Seguin, Maxime Annereau, Thomas Fleury, René Lai-Kuen, Giovanni Neri, Anita Lam, Marcel Bally, Nathalie Mignet & Yohann Corvis ; Scientific Reports volume 10, Article number: 18059 (2020)