

NANOCRYSTALS

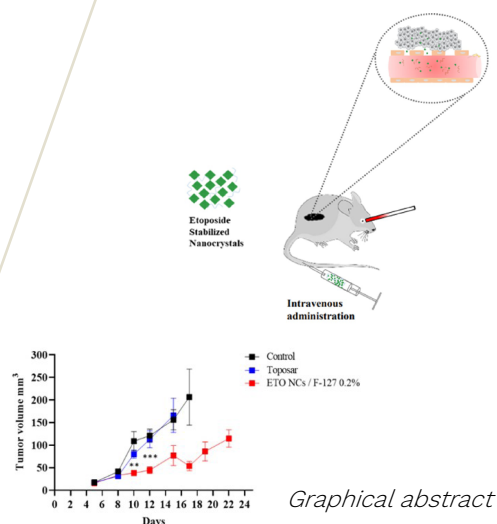
Novel excipient-free and low-excipient formulations

ERG\NEO

L'AVENIR EST FAIT D'AUDACE

PRESENTATION

70% of drug molecules face problems of poor bioavailability and instability. Nanotechnology applied to medicine can provide important progress, often by improving bioavailability and dose optimization. Researchers propose here a new formulation excipient-free and based on nanocrystals, improving biodisponibility & dose efficacy. The first indication developed for this technology is a new formulation of Etoposide, a commonly used molecule to treat several cancers, which faces those problems and usual side effects.



Drug formulation - Excipient-free - Biodisponibility
Etoposide - Cancer

COMPETITIVE ADVANTAGES

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

APPLICATIONS

- Formulation of non-soluble drugs
- Solid cancers such as Lung, ovarian, colorectal, breast
- Acute myeloid leukemia

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

INTELLECTUAL PROPERTY

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

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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/cmcd.201800612.

Preparation of parenteral nanocrystal suspensions of etoposide from the excipient free dry state of the drug to enhance in vivo antitumoral properties. B. Martin, et al. Scientific Reports 2020, 10, 18059

Designing fisetin nanocrystals for enhanced in cellulo anti-angiogenic and anticancer efficacy, P Ma, et al. Int J Pharm X. 2022, 100138.