

CPT-11 and SN 1 detection by UPLC-LIF

Application note Ref : AN 062

CPT11 is a drug against advanced colorectal cancer and SN 1 is a metabolite of CPT 11. Those two molecules fluoresce naturally and can be detected with a ZetaLIF detector providing a good sensitivity.

Figure 1 shows the chromatogram we obtained with CPT-11 at 0,05 mg/L :

⇒ **High speed method : Only 1,5 minutes to see the CPT 11**

⇒ **Limit of detection :**
CPT-11 : $6,3 \cdot 10^{-7}$ g/L ($6,3 \cdot 10^{-12}$ g)
SN 1 : $7,9 \cdot 10^{-6}$ g/L ($7,9 \cdot 10^{-11}$ g)
(LOD calculated for a S/N ratio of 3)

⇒ **Sample injection of 10 μ l**

Figure 2 shows the separation of CPT-11 and SN 1

Figure 3 shows the benefit obtained with UPLC-LIF detection compare to HPLC-conventional fluorescence *.

Samples:

Standards : CPT-11 at 0,05 mg/L

Instruments:

Waters® ACQUITY Ultra Performance LC™ System
Picometrics ZETALIF™ Evolution detector.
Laser: 325 nm, 15 mW

Methods:

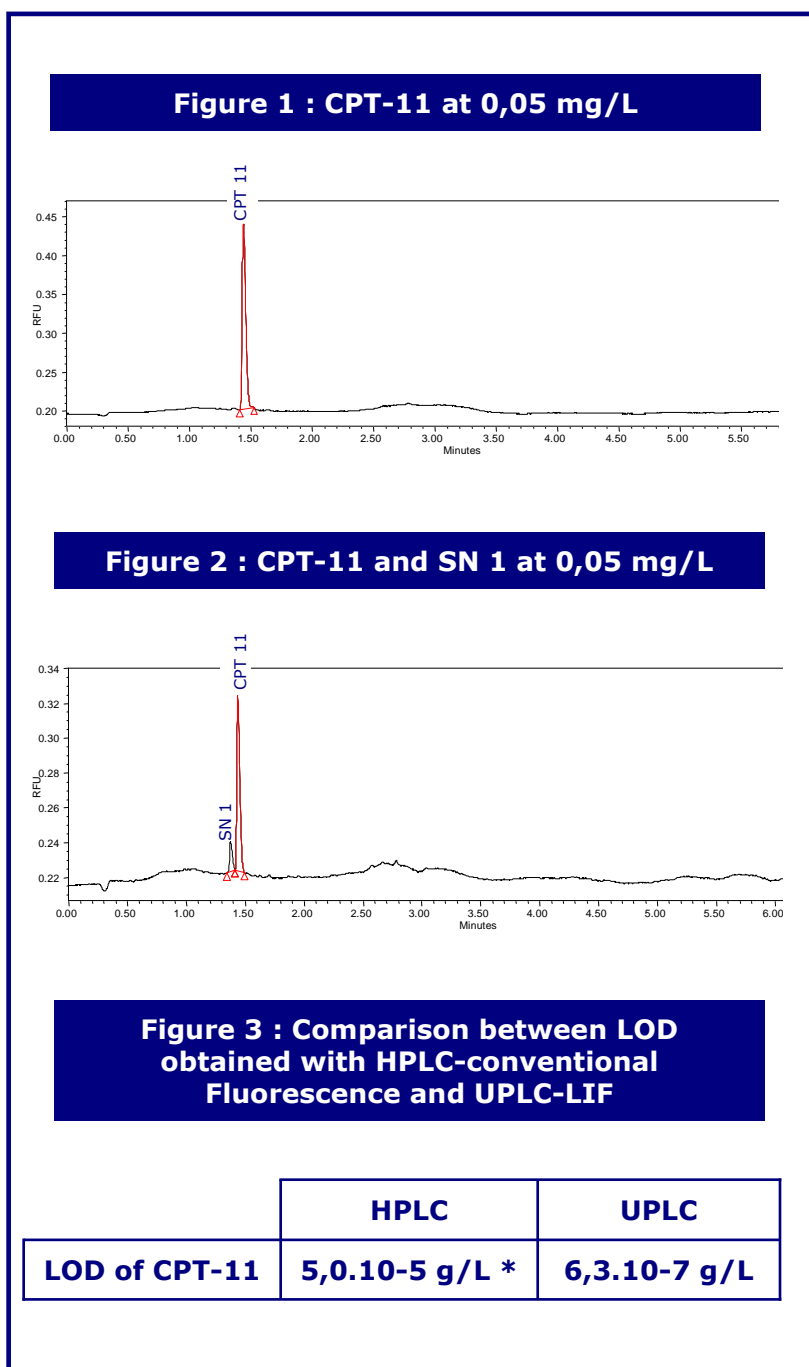
Flowrate: 0,2 ml/min

T= 40°C

Column: Acquity UPLC BEH C18 1.7 μ m 1.0x50mm

Phases : A : NaH₂PO₄ pH=3,1 at 25 mM

B : Acetonitrile



* Results extract from journal of pharmaceutical and biomedical analysis 39 (2005)581-586 E. Gravel,. Bourget, L. Mercier, A. Paci