

DOSINACO™

Ready-to-use LC-MS/MS reagent kit for anticoagulants in plasma

For Acenocoumarol, Apixaban, Argatroban, Betrixaban, Dabigatran, Edoxaban, Fluidione, Rivaroxaban and Warfarin

DOSINACO™ is a turnkey solution:

- 3 sets composed of: calibrators with 6 levels and blank, internal standards and quality controls with 4 levels
- Ready-to-use consumables: Mobile Phase A, Mobile Phase B, System Cleaning Phase, extraction buffer, reconstitution buffer, analytical column

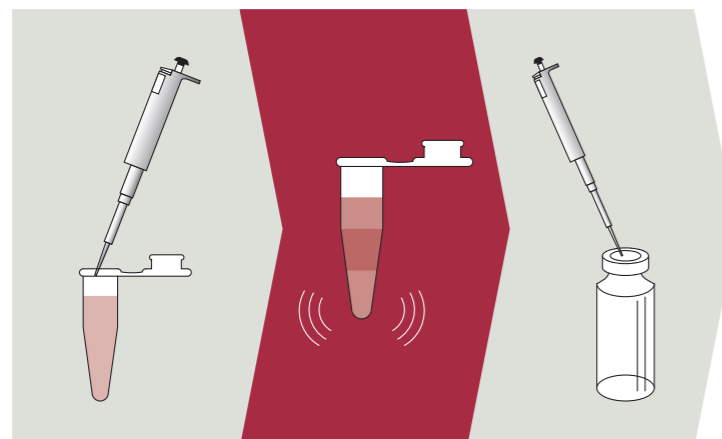
With in-house developed Carbon 13 and Deuterium internal standards

All-in-one support for you

The Alsachim ready-to-use DOSINACO™ reagent kit supports your work.

Anticoagulants are commonly used to manipulate the blood coagulation process by inhibiting thrombus formation. Anticoagulants include Vitamin K antagonist, Thrombin inhibitor and Factor X inhibitor. Due to the pharmacological mode of action, the use of anticoagulants may be associated with an increased risk of potential or over bleeding from any tissue or organ which may result in post hemorrhagic anemia.

A measurement of anticoagulants in plasma is essential to verify drug adherence and dose selection. Thanks to Mass spectrometry's specificity and sensitivity, MRM Technology and the use of in-house stable labeled internal standards Alsachim developed DOSINACO™ kit enabling the simultaneous quantification of 9 anticoagulants in plasma.



Insert in LC-MS/MS

Sample preparation:

- Transfer calibrator or control or human plasma sample
- Add Internal Standard
- Add Extraction buffer
- Shake and centrifuge
- Extract the supernatant
- Analyze

Molecules	MRM transitions	MRM transitions
[² H ₄]-Acenocoumarol	358.10>167.10	358.10>300.10
[¹³ C, ² H ₆]-Apixaban	469.20>452.20	469.20>199.10
[¹³ C ₆]-Argatroban	515.20>390.20	515.20>70.00
[¹³ C ₆]-Betrixaban	458.10>330.10	458.10>285.10
[¹³ C ₆]-Dabigatran	478.20>295.20	478.20>144.20
[² H ₆]-Edoxaban	554.20>372.20	554.20>158.10
[¹³ C ₆]-Fluindione	247.10>181.10	247.10>200.10
[¹³ C ₆]-Rivaroxaban	442.10>145.10	442.10>237.10
[² H ₆]-Warfarin	315.10>257.10	315.10>163.10

Molecules	MRM transitions	MRM transitions
Acenocoumarol	354.10>163.10	354.10>296.10
Apixaban	460.20>443.20	460.20>199.10
Argatroban	509.20>384.20	509.20>70.00
Betrixaban	452.10>324.10	452.10>279.10
Dabigatran	472.20>289.20	472.20>144.20
Edoxaban	548.20>366.20	548.20>152.10
Fluindione	241.10>175.10	241.10>194.10
Rivaroxaban	436.10>145.10	436.10>231.10
Warfarin	309.10>251.10	309.10>163.10

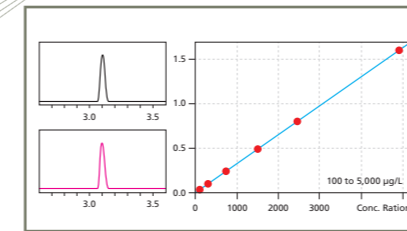
Parameter of analysis:

Injection volume: 0.1 – 50 µL
 Ionization: ESI positive
 MS/MS Mode: MRM
 Analysis time: 7 min

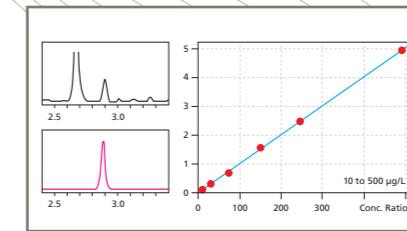


LC-MS/MS Analysis Data

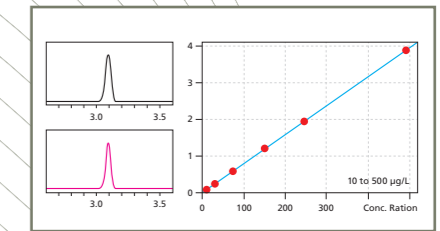
Acenocoumarol



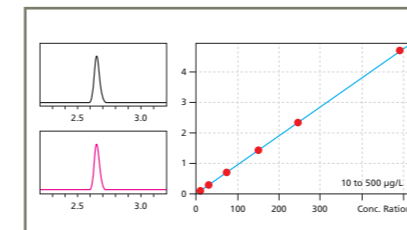
Apixaban



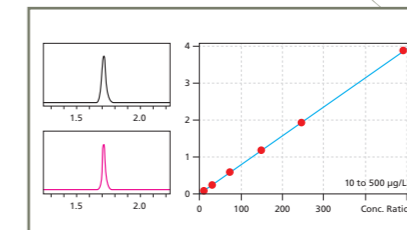
Argatroban



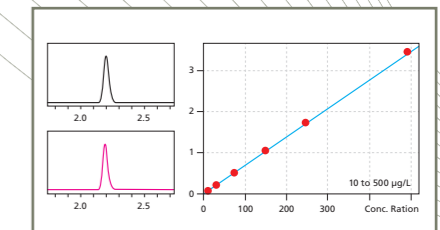
Betrixaban



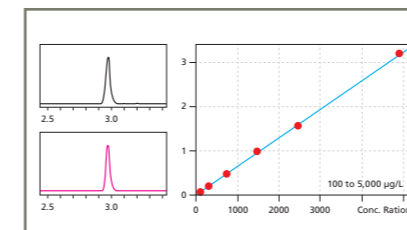
Dabigatran



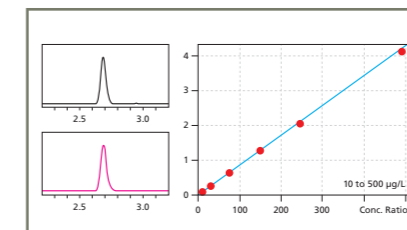
Edoxaban



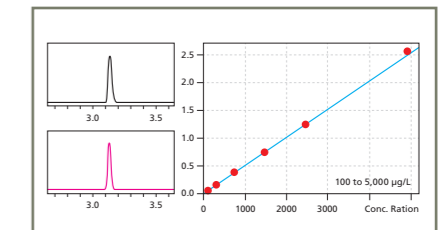
Fluindione



Rivaroxaban



Warfarin



Left: MRM chromatograms of calibrator Level 1 (Black peak: unlabeled compound, Pink peak: labeled compound)

Right: Calibration curve

Molecules	Limit of Quantitation	Linearity
Acenocoumarol	< 100 µg/L	up to 10,000 µg/L
Apixaban	< 10 µg/L	up to 1,000 µg/L
Argatroban	< 10 µg/L	up to 1,000 µg/L
Betrixaban	< 10 µg/L	up to 1,000 µg/L
Dabigatran	< 10 µg/L	up to 500 µg/L
Edoxaban	< 10 µg/L	up to 1,000 µg/L
Fluindione	< 100 µg/L	up to 10,000 µg/L
Rivaroxaban	< 10 µg/L	up to 1,000 µg/L
Warfarin	< 100 µg/L	up to 10,000 µg/L

The validation method was developed following the ICH and COFRAC bioanalytical guidelines.

Key benefits of ready-to-use DOSINACO™ kit



First Multiplex in the Market

• Time saving:

- Ready-to-use and optimized method (resolution, sensitivity, speed of analysis), validated method incl. sample preparation and data acquisition methods
- Supported by the equipment manufacturer
- Consistent QC material available

Kit Components

227-40500-58	DOSINACO™ Kit for 200 analysis (RUO)
227-40502-58	DOSINACO™, Mobile Phase A
227-40503-58	DOSINACO™, Mobile Phase B
227-40504-58	DOSINACO™, System Cleaning Phase
227-40505-58	DOSINACO™, Extraction Buffer
227-40506-58	DOSINACO™, Internal Standard Set
227-40510-58	DOSINACO™, Calibrator Set (6 Levels + Blank)
227-40520-58	DOSINACO™, Control Set (4 Levels)
227-40531-58	DOSINACO™, Analytical Column
227-40335-58	Microtubes <i>Optional</i>
227-40343-58	LC Vial set (vial and caps) <i>Optional</i>

Methods and documentation

Complete manual available including analytical and sample preparation methods, safety data sheets, quality and analysis certificates, expiry dates etc.

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