thermoscientific

$$LR = \left(\frac{SD_C}{SD_D}\right) \bullet e^{-0.5\left[\left(\frac{\log 10\,X - MD}{SD_D}\right)^2 - \left(\frac{\log 10\,X}{SD}\right)\right]}$$

$$LR = \left(\frac{SD_C}{SD_D}\right) \bullet e^{-0.5\left[\left(\frac{\log 10\,X - MD}{SD_D}\right)\right]}$$

Powerful and robust

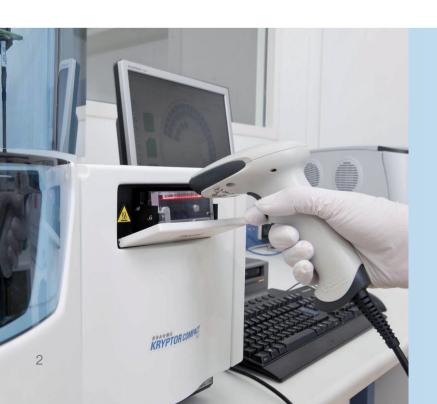B·R·A·H·M·S Fast Screen pre I plus:
Risk calculation for prenatal screening

ThermoFisher
SCIENTIFIC

B·R·A·H·M·S Fast Screen pre I plus

A modern, powerful, and robust clinical PNS software for 1st and 2nd trimester

High quality trisomy and pre-eclampsia algorithms

+

Database of more than 220 000 pregnancies

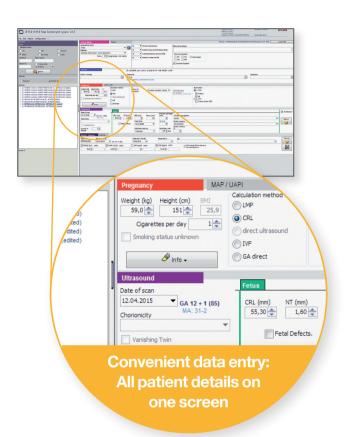### Reliable and effective risk calculation

Thermo Scientific™ B·R·A·H·M·S™ Fast Screen pre I plus is a **CE marked** software designed to ensure **convenience of data entry, risk calculation and reporting** for laboratories with both, low and high data throughput.
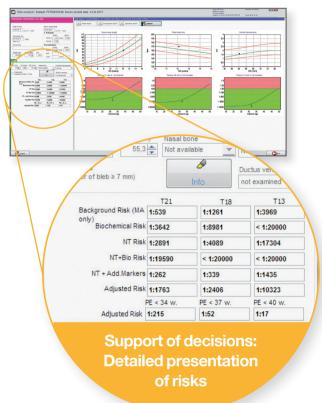
Because quality matters

First trimester combined screening considers maternal characteristics, biomarkers such as PAPP-A and Free βhCG as well as ultrasound measurements such as Nuchal Translucency (NT) and Nasal Bone (NB).

The result of this risk assessment is provided as individual risk of a pregnant woman. It is essential, that the result is as reliable and accurate as possible. This can only be achieved by using the best available methods.

Convenient data entry: All patient details on one screen

Support of decisions: Detailed presentation of risks

	T21	T18	T13
Background Risk (MA only)	1:539	1:1261	1:3969
Biochemical Risk	1:3642	1:8981	< 1:20000
NT Risk	1:2891	1:4089	1:17304
NT+Bio Risk	1:19590	< 1:20000	< 1:20000
NT + Add.Markers	1:262	1:339	1:1435
Adjusted Risk	1:1763	1:2406	1:10323
	PE < 34 w.	PE < 37 w.	PE < 40 w.
Adjusted Risk	1:215	1:52	1:17

Ultrasound

A correct determination of NT is very important for a correct risk calculation. It is recommended that a sonographer holds a certification of the Fetal Medicine Foundation (FMF) [1] or a corresponding local organization.

Biomarkers

The biochemical assays Thermo Scientific B·R·A·H·M·S Free βhCG, PAPP-A and PlGF plus KRYPTOR™ fulfil the strict quality requirements of the FMF since 1999 and provide constantly the highest precision and stability data as proved by the UK NEQAS data. [2]

Software

B·R·A·H·M·S Fast Screen pre I plus offers first trimester algorithms that are based on the FMF data and are updated with recently published further improvements. The huge database ensures a statistically significant robustness. [3]

High quality algorithms and stable medians ensure best results

1st trimester algorithms

Trisomy 21, 18 and 13

The B·R·A·H·M·S Fast Screen pre I plus algorithm for first trimester combined screening is based on FMF risk calculation and published data.[3,4,5]

PAPP-A
Free βhCG
PlGF
NT
NB
DVPI
TR

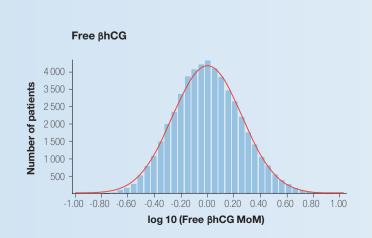| Week of gestation …	3	4	5	6	7	8	9	10	11	12	13	14

Pre-eclampsia

The B·R·A·H·M·S Fast Screen pre I plus algorithm for first trimester pre-eclampsia combines maternal characteristics, obstetrics history, biophysical markers and maternal serum biomarkers.[6] The algorithm developed by the FMF was fitted on gestational age at the time of delivery with pre-eclampsia.[7]

PAPP-A
PlGF
MAP
UAPI

Stable and robust medians guarantee a reliable risk calculation

The medians of the B·R·A·H·M·S biochemical markers Free βhCG, PAPP-A and PlGF [8], which are included in the B·R·A·H·M·S Fast Screen pre I plus software, are extremely stable. The medians were established on over 220 000 healthy pregnancies.[3] A recalculation of medians and MoMs over the time is not required.[9]

Free βhCG

Histogram of Number of patients vs log 10 (Free βhCG MoM), x-axis from -1.00 to 1.00, y-axis from 500 to 4 000.

Trisomy 21 and 18

AFP
hCG+β / Free βhCG

The B·R·A·H·M·S Fast Screen pre I plus second trimester algorithm allows calculation of risk for trisomies 21 and 18 with double test (AFP and hCG+β/Free βhCG).

2nd trimester algorithms

15 16 17 18 19 20 21 22 23 24 25 …

NTD

AFP

The AFP value indicates the fetal neural tube defect (NTD).

DVPI	Ductus Venosus Pulsatility Index
MAP	Mean Arterial Pressure
NB	Nasal Bone
NT	Nuchal Translucency
NTD	Neural Tube Defects
TR	Tricuspid Regurgitation
UAPI	Uterine Artery Pulsatility Index

PAPP-A

— predicted distribution
■ measured over 6 years

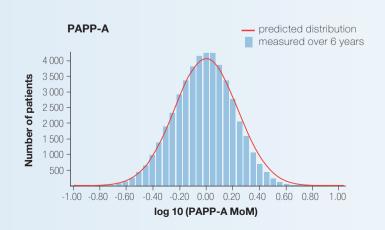Number of patients
log 10 (PAPP-A MoM)

Figure Distribution of the cumulative measurement of Free βhCG and PAPP-A of ~55 000 samples (blue bars) over a time period of 6 years compared to the predicted distribution (red curve)[9]

B·R·A·H·M·S Fast Screen pre I plus

More than just a risk calculation tool

B·R·A·H·M·S Fast Screen pre I plus contains various useful tools for data management, internal and external quality control, audits and statistics. Particular attention is paid to patient data security and traceability.

Maximum data security and traceability:
Fulfilling the requirements of a clinical software

- Software audit option for external quality control
- Internal audit trails to trace all actions
- Pop-up warnings if data is missing or out of range
- Validation of data before production of report
- All data are saved automatically
- 4 levels of users for data entry and management

Easy and effective:
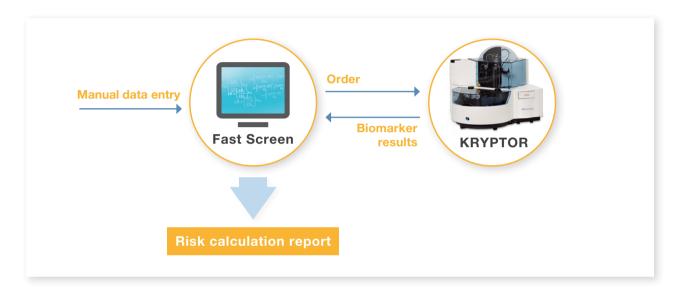**Useful data management tools**

- Statistic and audit reports
- Pregnancy outcome requests and follow-up information
- Database search tool
- Export data for statistics and research
- Printing reports one by one or in defined batches
- Printing, saving and sending reports automatically via email
- Possibility to keep extended patient data for record purposes
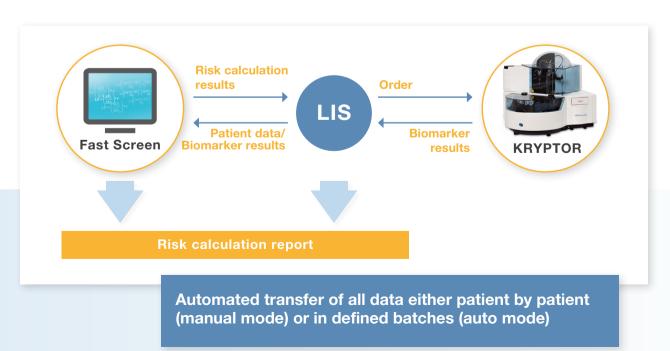
Additional benefits

- 7 languages of interface, reports and user manuals
  (English, German, French, Spanish, Italian, Turkish, and Russian)
- Software trial version for 60 days
- Dedicated technical and scientific support

High connectivity:
Meeting the lab's need

Manual entry of patient data and connection to B·R·A·H·M·S KRYPTOR

Manual data entry

Fast Screen

Order

Biomarker results

KRYPTOR

Risk calculation report

Automatic data transfer via Laboratory Information System (LIS)

Fast Screen

Risk calculation results

Patient data/ Biomarker results

LIS

Order

Biomarker results

KRYPTOR

Risk calculation report

Automated transfer of all data either patient by patient (manual mode) or in defined batches (auto mode)

thermoscientific

CE marked clinical software

Visit our online software demonstration

fastscreen.world-of-biomarkers.com

Thermo Scientific B·R·A·H·M·S Biomarkers Prenatal Screening Portfolio on B·R·A·H·M·S KRYPTOR Systems	
Biomarkers	
B·R·A·H·M·S **AFP** KRYPTOR	Art. no.: 816.075
B·R·A·H·M·S **Free βhCG** KRYPTOR	Art. no.: 809.075
B·R·A·H·M·S **hCG+β** KRYPTOR	Art. no.: 841.050
B·R·A·H·M·S **Inhibin A** KRYPTOR*	Art. no.: 850.075
B·R·A·H·M·S **PAPP-A** KRYPTOR	Art. no.: 866.075
B·R·A·H·M·S **PlGF plus** KRYPTOR**	Art. no.: 859.075
B·R·A·H·M·S **sFlt-1** KRYPTOR**	Art. no.: 845.075
B·R·A·H·M·S **uE3** KRYPTOR***	Art. no.: 803.075
Software	
B·R·A·H·M·S **Fast Screen pre I plus**	Art. no.: 105750
Instruments	
B·R·A·H·M·S KRYPTOR GOLD	Art. no.: BMKSYS0201
B·R·A·H·M·S KRYPTOR compact PLUS	Art. no.: 106172

* Available on B·R·A·H·M·S KRYPTOR GOLD
** Available on B·R·A·H·M·S KRYPTOR compact PLUS and B·R·A·H·M·S KRYPTOR GOLD
*** Available on B·R·A·H·M·S KRYPTOR, B·R·A·H·M·S KRYPTOR compact PLUS and B·R·A·H·M·S KRYPTOR GOLD

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Clinical Diagnostics

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