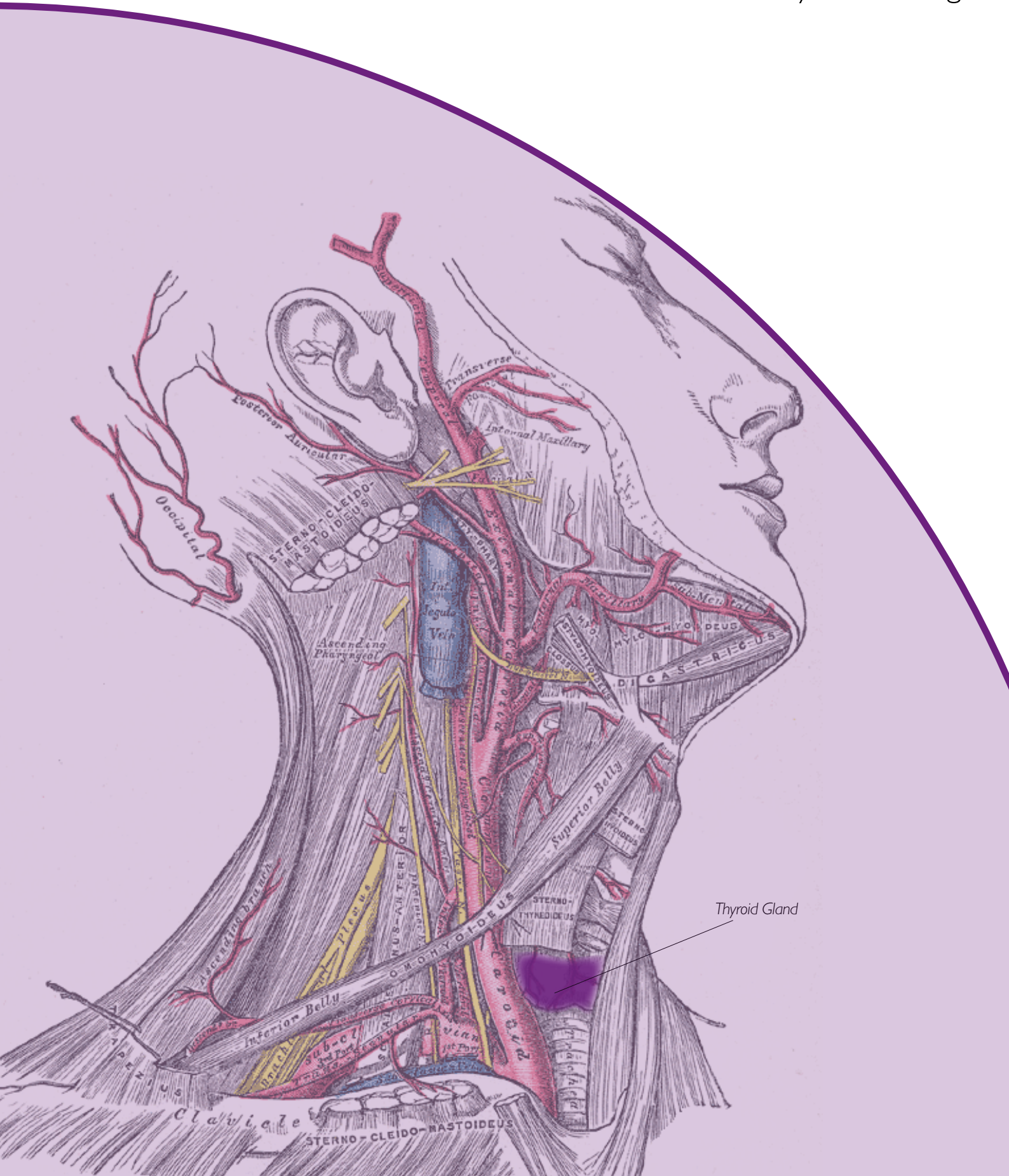


Thyroid Arrays

For accurate thyroid testing



Thyroid Arrays

FOR ACCURATE THYROID FUNCTION TESTING

Simultaneous measurement of thyroid hormones in a single patient sample

ABOUT THYROID FUNCTION

The thyroid gland produces hormones that control the rate of metabolism and affect the development and function of many other body functions. The two most common thyroid disorders are hyperthyroidism (overactive thyroid) and hypothyroidism (under active thyroid).

- Thyroid stimulating hormone (TSH) produced by the anterior pituitary gland regulates the production of two hormones from the thyroid in a negative feedback mechanism. When levels of thyroxine (T4) and tri-iodothyronine (T3) are low, TSH is stimulated to produce more T4 and T3. Similarly, when levels are high, TSH production is decreased which in turn decreases T4 and T3. TSH is used to screen for and monitor hyper and hypothyroidism.

- Thyroxine (T4) is a pro-hormone which is converted to the biologically active T3 on release from the thyroid gland. Free T4 gives a more accurate measure of activity. T4 is used to test for both hyper and hypothyroidism.

- Tri-iodothyronine (T3) is the most biologically active of the thyroid hormones and affects almost every process in the body including temperature, growth and heart rate. T3 is used to test for hyperthyroidism only.

The measurement of T4 and T3 will determine if thyroid hormones are being produced proportionally to demand, thus a 3-analyte array provides a more complete profile.

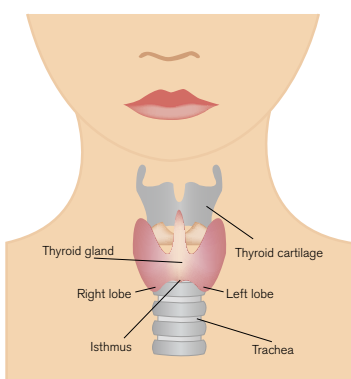
THYROID FREE ARRAY

- Free thyroxine (FT4)
- Free tri-iodothyronine (FT3)
- Thyroid stimulating hormone (TSH)

THYROID TOTAL ARRAY

- Total thyroxine (TT4)
- Total tri-iodothyronine (TT3)
- Thyroid stimulating hormone (TSH)

BENEFITS OF RANDOX THYROID ARRAYS



- Small sample volume, just 100µl serum for all three analytes
- Applicable to fully automated and semi-automated analysers
- Simple sample preparation
- Wide measuring range
- Fast throughput
- Excellent analytical performance
- Allows for informed medical decisions

THYROID TOTAL ARRAY PERFORMANCE OUTLINE ON EVIDENCE INVESTIGATOR

Analyte	Assay Range*
TSH (µIU/ml)	0.01 - 75
TT4 (µg/dl)	0.4 - 25
TT3 (ng/ml)	0.3- 10

05/ 2137/ 214

*This is a typical assay range and may vary slightly with batch of calibrators

Intra-Assay Precision (n=20)						
Analyte	Level 1		Level 2		Level 3	
	Conc	%CV	Conc	%CV	Conc	%CV
TSH µIU/ml	0.13	6.3	2.19	4.6	16.30	4.8
TT4 µg/dl	3.14	3.5	10.62	6.3	13.25	7.6
TT3 ng/ml	1.88	8.6	3.12	6.7	4.43	6.7

05/2092, 2093/214

THYROID FREE ARRAY PERFORMANCE OUTLINE ON EVIDENCE INVESTIGATOR

Analyte	Assay Range*
TSH µIU/ml	0.01 - 75
FT4 pmol/l	1.89 - 100
FT3 pmol/l	1.29 - 75

05/2122/214, 06/2207, 2198/214

*This is a typical assay range and may vary slightly with batch of calibrators

Intra-Assay Precision (n=20)						
Analyte	Level 1		Level 2		Level 3	
	Conc	%CV	Conc	%CV	Conc	%CV
TSH µIU/ml	0.18	6.2	2.18	5.5	14.98	3.4
FT4 pmol/l	10.87	6.7	24.09	6.9	45.19	8.8
FT3 pmol/l	4.47	14.0	21.70	12.2	32.99	12.1

05/2195, 2196/214

RESEARCH APPLICATIONS FOR THYROID ARRAYS

Thyroid Arrays have been used in a number of studies with independent publications as shown in the table below.

Condition	Research application	References
Orthopaedic surgery	Investigate levels of thyroid hormones before, 3 hours after and the morning after intervention	Anckarsäter R. <i>et al.</i> (2007). <i>Psychoneuroendocrinology</i> 32:1138-1143
General population samples of patients undergoing knee surgery	Explore neurobiological markers previously found to co-vary with destructive personality traits in violent offenders.	Nilsson T. <i>et al.</i> (2010). <i>Psychiatry Res.</i> 178: 525-530

BIOCHIP SYSTEMS



—evidence— **EVOLUTION**

- Large laboratories
- High throughput
- Random access, fully automated
- Clinical/ research testing



—evidence— **INVESTIGATOR**

- Medium size laboratories
- Medium throughput
- Semi-automated
- Clinical/research testing



evidence

- Large laboratories
- High throughput
- Fully automated
- Clinical/research testing

Thyroid Total Array
Thyroid Free Array

EV3516
EV3517

Thyroid Total Array

EV3501 (360 Biochips)
EV3545 (180 Biochips)

Thyroid Free Array

EV3502 (360 Biochips)
EV3546 (180 Biochips)

Thyroid Total Calibrators
Thyroid Free Calibrators

EV3555
EV3563

Immunoassay Controls: EV3570

For diagnostic purposes, the results obtained from the Thyroid Arrays should always be used in conjunction with a clinical examination, patient medical history and other findings.

RANDOX

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LT179 DEC12