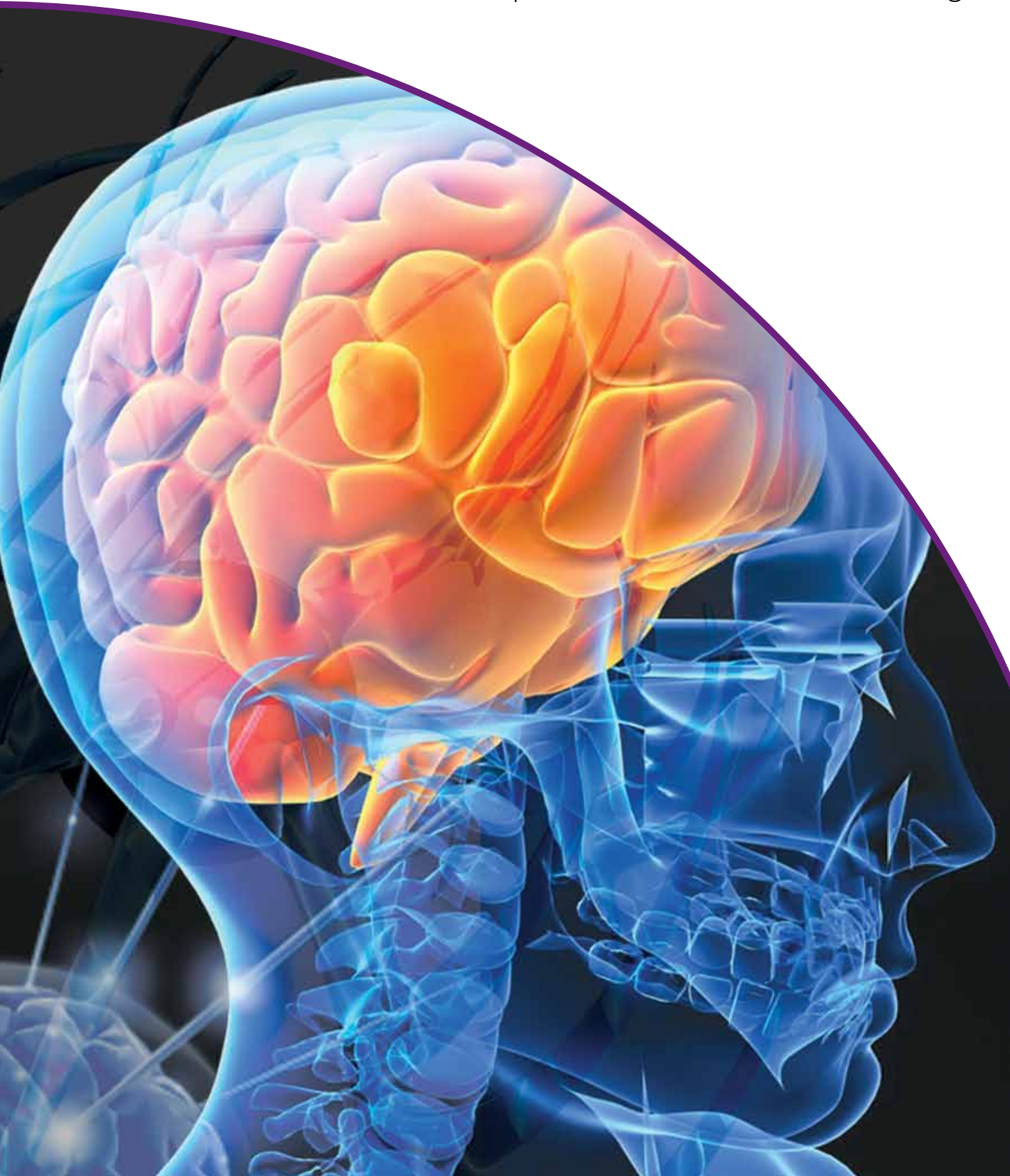


**RAN**DOX

# Cerebral Arrays

Rapid and Accurate Cerebral Testing



# FOR THE SIMULTANEOUS MEASUREMENT OF ANALYTES ASSOCIATED WITH NERVOUS SYSTEM DYSFUNCTION



Randox Cerebral Arrays are designed for the simultaneous measurement of analytes associated with nervous system dysfunctions such as cerebrovascular disease, Alzheimer's disease and Multiple Sclerosis (MS).

## Cerebral Array I

Brain-Derived Neurotrophic Factor (BDNF)  
Glial Fibrillary Acidic Protein (GFAP)  
Heart Type Fatty Acid Binding Protein (H-FABP)  
Interleukin-6 (IL-6)

## Cerebral Array II

C-reactive protein (CRP)  
D-dimer  
Neuron Specific Enolase (NSE)  
Neutrophil Gelatinase-Associated Lipocalin (NGAL)  
Soluble Tumour Necrosis Factor Receptor I (sTNFRI)  
Thrombomodulin (TM)

Von Willebrand Factor (vWF)\*

\*Available as an ELISA

## Key Benefits

- Measures up to 6 cerebral biomarkers simultaneously
- Human serum, plasma and cerebrospinal fluid (CSF) samples
- Small sample volume, just 35 - 100µl
- For use with fully and semi-automated analysers
- Simple sample preparation
- Wide measuring range
- Fast throughput
- Excellent sensitivity, precision and recovery

## Clinical Significance

Neurological disorders can affect the central, somatic and autonomic nervous system. At the molecular level, many analytes have been found to be involved in the pathophysiology of this complex interacting system.

### Cerebral Array I

**BDNF** – A neurotrophin; widely distributed throughout the CNS. It limits neurodegenerative damage after brain injury and is a good marker for stroke detection.

**GFAP** – Specific marker for astrocyte damage. It is significantly elevated following stroke onset. The release pattern of GFAP is dependent on the subtype and pathophysiology of stroke.

**H-FABP** – Involved in lipid transport and released rapidly from damaged cells. It is an early marker of cardiac injury, but also shows elevated levels following stroke.

**IL-6** – IL-6 levels correlate with the extent of brain lesion in ischemic and haemorrhagic stroke.



## Performance on Evidence Investigator

### Cerebral Array I

Analyte	Calibration range*	Sensitivity
BDNF	0-7500pg/ml	0.59pg/ml
GFAP	0-120ng/ml	0.18ng/ml
H-FABP	0-100ng/ml	0.29ng/ml
IL-6	0-550pg/ml	0.64pg/ml

07/346,380/305

\*This is a typical range, which may vary with batch of calibrators

Recovery range for three different concentration levels: 89 - 107%  
Intra-assay and inter-assay precision <15%

07/354, 382/305

### Cerebral Array II

**CRP** – Fastest acting acute phase protein. While high levels indicate infection/inflammation, mildly increased levels are associated with cardiovascular disease.

**D-dimer** – Mediates both clot formation and fibrinolysis. Elevated levels are dependent on the type of stroke and correlate with the degree of damage and neurological outcome.

**NGAL** – Secreted from specific granules of human neutrophils upon cell activation; prolonged elevation in serum and plasma after stroke.

**NSE** – A glycolytic enzyme and readily released into the CSF and blood after tissue damage. Blood levels are elevated in stroke and seem to correlate with the extent of infarcted tissue.

**sTNFR1** – A soluble receptor shed from the cell surface; elevated levels are found in acute ischemic stroke. It could be a significant predictor of cardiovascular mortality after ischemic stroke.

**TM** – An endothelial cell membrane injury marker; decreased levels found in acute atherothrombotic and cardioembolic infarctions. Levels increase with age and hypertension and may be proactive against brain infarction.

**vWF** – Mediates platelet adhesion and stabilizes factor VIII. Independent risk factor for transient ischemic attack (TIA), minor ischemic stroke and cerebral vasospasm after subarachnoid haemorrhage. (Available as an ELISA)

### Cerebral Array II

Analyte	Calibration range*	Sensitivity
CRP	0-12mg/l	0.67mg/l
D-dimer	0-2000ng/ml	2.10ng/ml
NGAL	0-2000ng/ml	17.80ng/ml
NSE	0-200ng/ml	0.26ng/ml
sTNFR1	0-50ng/ml	0.24ng/ml
TM	0-200ng/ml	0.50ng/ml

08/224/318

\*This is a typical range, which may vary with batch of calibrators

Recovery range for three different concentration levels: 82.7 - 105.5%  
Intra-assay and inter-assay precision <15%

08/216,217,218,221,222/318

# evidence investigator



- Semi-automated
- Medium throughput
- Medium size labs
- Research

# evidence



- Fully Automated
- High throughput
- Large labs
- Research

## Ordering Details

Cerebral Array I EV3573

Cerebral Array II EV3637

Multi-analyte calibrators included with Evidence Investigator.

Multi-analyte calibrators and controls available for both arrays.

Van Willebrand factor ELISA: VW3457

Cerebral Array I

EV3634

## Complementary Arrays:

Complementary arrays for nervous system dysfunction research:

- Cytokine arrays
- Adhesion molecules array
- Cardiac arrays

# RANDOX

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