Gold Dot NR2 Antibody Test Kit

For in vitro quantitative determination of antibodies to NR2 subunit of NMDA receptors in serum

Intended Use

The Gold Dot NR2 Antibody assay is a serological enzyme-linked immunosorbent assay (ELISA) for the quantitative determination of antibodies to the NR2 subunit of human NMDA glutamate receptor in serum. According to previous studies elevated NR2 Antibody level indicates prior ischemic stroke and increased risk of near-term cerebral ischemic events especially in patients with preexisting conditions (diabetes, hypertension, atherosclerosis, cardiovascular disorders).[1-6] The test is intended to be used in conjunction with clinical evaluation and neuroimaging findings.

Principle of the Test

Concentrations of NR2 antibodies are determined immunochemically in a serological assay. NR2 peptide, the fragment of NMDA receptors, is coated on the solid phase of a microtiter plate (MTP). In a first incubation step, antibodies in the sample react with the solid phase bound NR2 peptide. After intensive washing, the antibodies captured on the MTP react with horseradish peroxidase labeled Protein A.

//-NR2 Peptide ← Serum Antibodies ← Protein A-HRP

The immunocomplex is formed and quantitatively determined in a third incubation step via HRP/TMB-detection reaction. An acidic stopping solution is then added. The color converts from blue to yellow. The intensity of the yellow color is directly proportional to the concentration of NR2 antibodies in the sample. A dose response curve of the absorbance measured at 450 nm or using dual wave measurement at 450 nm and 630 nm vs concentration is generated. NR2 antibody concentrations in the diluted serum samples are determined directly from this calibration curve.

Gold Dot NR2 Antibody Strengths	Gold Dot NR2 Antibody Limitations
• NR2 antibody is an independent blood-borne marker that rules in cerebral ischemic event and rules out hemorrhage • NR2 antibody is a marker of neurotoxicity and circulates in the blood 3-6 months after prior isolated or multiple ischemic stroke • NR2 antibody elevation corresponds to increased risk of near-term ischemic stroke and strongly predicts risk of TIA • NR2 antibody indicates old ischemic lesions • NR2 antibody allows follow-up after treatment • NR2 antibody concentration correlates with the size of prior isolated or multiple cortical ischemic stroke (for strokes with areas from 3 cc to approximately 30 cc)	• NR2 antibody test has low sensitivity to small (<3 cc) and/or white matter strokes

Reference Values of Gold Dot NR2 Antibody Assay

Normal	Abnormal
≤ 2.0 ng/mL	**> 2.0 ng/mL**

Advantages

• Color-coded reagents
• The reagents in one kit are sufficient for 89 assays
• Convenient, cost-effective ELISA
• For in vitro diagnostic use in CE marking countries
• 90-minute procedure

References

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5. Dambinova SA. Brain Biomarkers for Cerebral Ischemia: NMDA Neuroreceptor Degradation and Blood Assay Development. AACC Press. 2009.
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2675 North Decatur Road, Suite 212
Decatur, GA 30033 USA
Tel/Fax +1.404.499.0303
www.cisbiotech.com
info@cisbiotech.com

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