PRODUCT INFORMATION

Nitrotyrosine-G-BSA
Ref: NTCRUO

1. FIELD OF USE
Nitrotyrosine-G-BSA can be used as microplate coating antigen in Indirect ELISAs and as magnetic
cystoparticle coating antigen in Liquid Phase immunoassays, for the quantitative determination of
immunoglobulins to conjugated Nitrotyrosine, in biological liquids.

2. MATERIAL SUPPLIED

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Clear polystyrene 2mL-microtube with o-ring seal screw attachment loop containing 1mg powder of Nitrotyrosine conjugated with BSA via glutaraldehyde</td>
<td>1</td>
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</tbody>
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3. GENERAL INSTRUCTIONS
- Dilute Nitrotyrosine-G-BSA powder in distilled water and stir gently for 15 min prior to use.

4. CAUTIONS FOR USE
- For research use only. Not for use in diagnostic procedures.
- Respect usual handling precautions in laboratory.
- Dispose of waste observing all local, state, provincial or national regulations.

5. STORAGE AND STABILITY
- Microtubes are packed and sealed in a pouch with desiccant. They are shipped at ambient
temperature.
- Upon receipt, store microtubes between +2 and +8°C in unopened pouches.
- See expiry date on packaging label.

6. BACKGROUND
Nitric oxide (NO) has been shown to have multiple physiological actions and is implicated in the
pathology of a wide range of diseases. However, NO itself is neither highly reactive nor particularly toxic,
but rather forms secondary oxidants responsible for tissue injury. A major pathway that enhances the
toxicity of NO is the near diffusion-limited reaction with superoxide (O2−) to form peroxynitrite (ONOO−).
One of the most easily identified products of ONOO− attack on proteins is Nitrotyrosine (NT; 3-Nitro-L-
tyrosine; 3-Nitrotyrosine; NO2-tyrosine; NO2-Tyr) (Reiter at al., 2000).

Abnormal levels of the neoantigen NT in the serum of patients indicate a pathological situation (Geffard
et al., 2012). For example, increased levels of NT were observed, in plasma from patients:
- With Osteoarthritis (OA) and rheumatoid arthritis (RA) (Misko et al., 2013)
• With Multiple sclerosis (MS) - a highest concentration being observed in plasma from SP-MS (secondary progressive MS) patients than in plasma from RR-MS patients (Relapsing-remitting MS) (Lukáč et al., 2013)
• With Systemic lupus erythematosus (SLE) (Millera et al., 2012; Oates et al., 1999)
• With Systemic sclerosis (SSc) (Shimizu et al., 2007)
• With Minimal hepatic encephalopathy (MHE) (Felipo et al., 2013; Montoliu et al., 2013)
• With Lyme borreliosis (Ratajczak-Wrona et al., 2013)
• With Myelodysplastic syndromes (MDS) (Novak et al., 2014)
• With various cardiovascular diseases (Shishhebor et al., 2003; Vadseth et al., 2004; Hoffman, 2008)
• After stroke (Bas et al., 2012; Cichoń et al., 2015).

The immune system maintains the organism’s integrity and participates in homeostasis. This system responds to all disorders through the activation of specialized cells and through antibody production. Accordingly, the quantitative determination in biological liquids of immunoglobulins directed against conjugated NT is an easy and reliable tool 1) for indirectly quantifying conjugated NT, 2) for revealing the overproduction of NO or ONOO⁻ and 3) for screening and monitoring the evolution of diseases (Geffard et al., 2010). Thus, abnormal levels of circulating antibodies to conjugated NT were found in serum of patients with Amyotrophic Lateral Sclerosis (ALS) (i.e. IgA and IgM), with RR-MS (i.e. IgM) and with Alzheimer’s disease (AD) (i.e. IgA) (Duleu et al., 2007).

7. BIBLIOGRAPHIC REFERENCES


