ProAxsis Ltd

In-Vitro Diagnostics

NEATstik®

Make an immediate difference in respiratory management

Introducing the NEATstik® Point-of-Care Test for Neutrophil Elastase, providing qualitative results for monitoring respiratory disease

NEATstik®

A Point-of-Care Test for Neutrophil Elastase

Results in 10 minutes for quick intervention

- **Detects active Neutrophil Elastase (NE) in sputum at the point of care**
- **Reliable results within 10 minutes**
- **Qualitative result**
- **Healthcare professional can quickly identify if the status of the patient's lungs need further investigation**
- **Internal Quality Control ensuring high quality performance and reliable results**

Managing respiratory disease

- Healthcare Professionals (HCPs) face challenges when identifying and managing the risk and symptoms of exacerbation in patients with respiratory disease
- Experts have stated that potential Biomarkers (measurable indicator of the presence or severity of a disease state) need to be readily available in real-life clinical practice [1]
- Neutrophil Elastase is released as part of the body's natural immune response to fight infection and normally forms a complex with one of its natural inhibitors. However, excess active NE is destructive to lung tissue and is believed to directly contribute to the pathogenesis and progression of several respiratory diseases including Bronchiectasis, Chronic Obstructive Pulmonary Disease (COPD) and Cystic Fibrosis (CF) [2]
- Testing for NE can help prioritise patients so deteriorating health damage can be captured and treated earlier, reducing pressures and freeing up hospital space for patients affected by conditions that cannot be as easily monitored
- Using the ProAxsis NEATstik® as part of the toolkit for respiratory management will help alleviate preventable worries for health care workers and patients, ultimately leading to increased quality of life for patients

Introducing NEATstik

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- NEATstik® is a unique Point-of-Care test (POCT) created through use of advanced patented 'ProteaseTag' technology and scientific expertise
- It is a lateral flow test for monitoring active Neutrophil Elastase, a key biomarker of lung infection and inflammation, in fresh sputum
- It Includes a control line (C), to establish the strip is working effectively and to detect the conjugate, and a Test line (T) consisting of an antibody which detects active NE in the sample
- A 10 minute test time allows the test to be performed at the point of care
- A solid test line signifies high levels of Neutrophil Elastase, indicating to the Health Care Professional that there is infection and/or inflammation
- Enables the Health Care Professional to determine whether the patient needs further medical attention to potentially allow pre-emptive treatment to reduce the risk of future exacerbation

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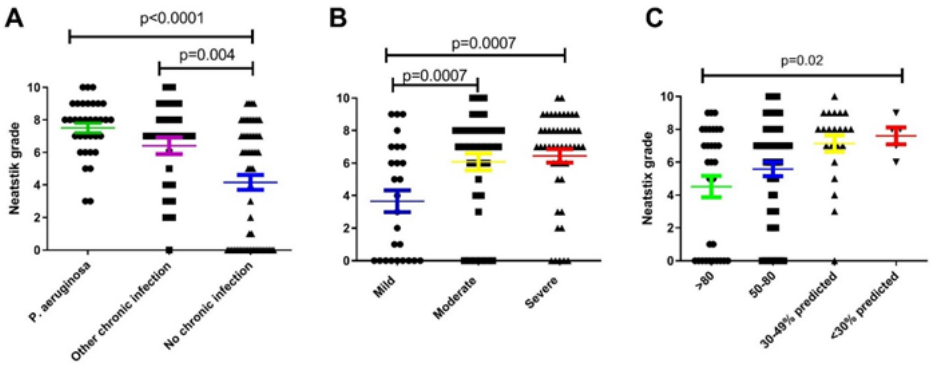
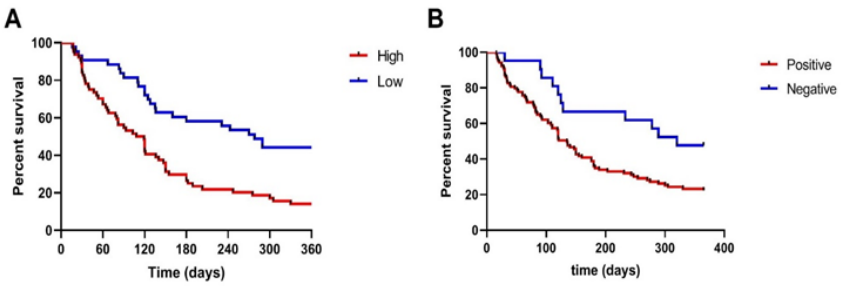
Clinical Evidence - A point-of-care neutrophil elastase activity assay identifies bronchiectasis severity, airway infection and risk of exacerbation [3]

- **Sputum samples from 174 patients with stable bronchiectasis enrolled in the UK (Dundee), Spain (Barcelona) and Italy (Milan) study**
- **Severity of disease, airway infection from sputum culture and exacerbations over the 12 months following sputum sampling were recorded**
- **Active NE levels were assessed with both the ProteaseTag® Active NE Immunoassay and NEATstik® (Neutrophil Elastase Airways Test Stik, POCT).**

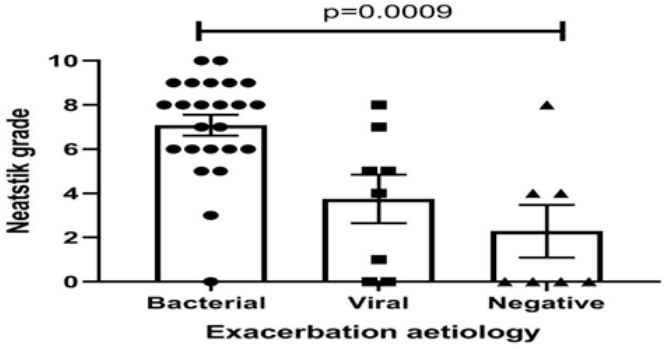
- Compared to patients without chronic infection, patients with *P. aeruginosa* had significantly higher NE activity (Figure A). High active NE levels measured by NEATstik® were associated with increased bronchiectasis severity using the bronchiectasis severity index (Figure B; p=0.0007) and lower FEV1 (Figure C; p=0.02)



- High active NE levels measured by NEATstik® were predictive of future exacerbations and associated with a significant increase in exacerbation frequency (p<0.0001). The median time to next exacerbation for patients with the highest active NE levels was 113 days compared to 278 days for those with lower levels (Figure A, Hazard ratio = 2.40; p=0.0001).

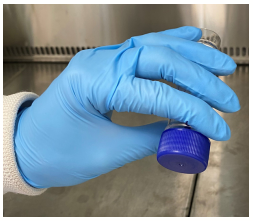


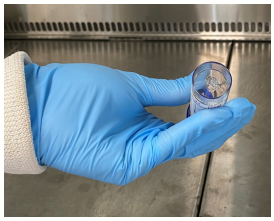
- Bacterial exacerbations were associated with higher active NE levels, thus potentially enabling the identification of patients who may be most likely to respond to antibiotic therapy.



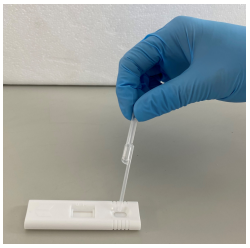
Simple steps to increased respiratory insights

1. Dilute fresh sputum in a collection pot and mix



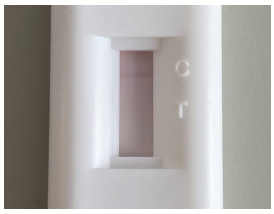


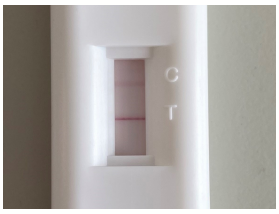
2. Apply sputum to sample well



3. Wait 10 minutes

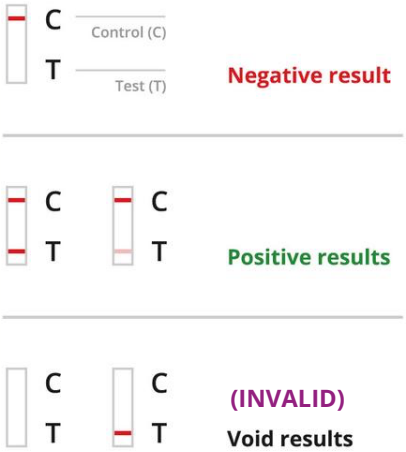
4. Read NEATStik® result





NEGATIVE
T line is not visible. This indicates the patient has a lower risk of exacerbation due to bacterial infection

POSITIVE
T line is visible. This indicates further intervention is required



Please consult the Instructions For Use for full instructions

For inquiries and further product information, call us on 028 9073 0443, e-mail us at info@proaxsis.com or visit our website www.proaxsis.com

References:

1. Lonergan et al. Blood neutrophil counts are associated with exacerbation frequency and mortality in COPD. Respiratory Research 2020: 21;166

2. Chalmers et al. Neutrophil Elastase Activity is associated with exacerbations and lung function decline in Bronchiectasis. Am J Resp Crit Care Med 2017: 195;10:1384

3. Shoemark et al. A point-of-care neutophil elastase activity assay identifies bronchiectasis severity, airway infection and risk of exacerbation. Eur Resp J 2019: 53;1900303

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NEATstik® purchasing info here!