BREATH BIOPSY®

# BREATH BIOPSY® PANEL FOR RESPIRATORY DISEASES

OWLSTONE MEDICAL

## WHAT

• • • AN RUO PANEL OF • • •

BIOLOGICALLY RELEVANT VOLATILE ORGANIC COMPOUNDS

THAT HAVE BEEN LINKED TO **CHRONIC INFLAMMATORY AIRWAY DISEASE**

## WHY

THERE IS AN **URGENT** AND **GROWING NEED** TO FACILITATE BETTER

**THERAPEUTIC DECISION MAKING** AND **MONITORING**

IN **RESPIRATORY DISEASE**

+

THERE ARE CURRENTLY **NO COST-EFFECTIVE** AND **PATIENT-FRIENDLY** WAYS TO CHARACTERISE **AIRWAY INFLAMATION**

## WHO

CHRONIC INFLAMMATORY AIRWAY DISEASE PATIENTS WORLDWIDE

Diseases Include

**ASTHMA**

AFFECTING **339 MILLION** PEOPLE

OF WHICH **ONLY 18%** ARE **FULLY CONTROLLED** (USING GINA CRITERIA)

**IPF** AFFECTING AROUND **3 MILLION** PEOPLE

THE MEDIAN **SURVIVAL** AFTER DIAGNOSIS **IS 2-3 YEARS**

**COPD**

THE **3RD BIGGEST CAUSE** OF **DEATH WORLDWIDE** WITH AN ESTIMATED **251 MILLION** CASES

**LUNG CANCER**

WITH OVER **2M NEW CASES** & 1.76M DEATHS REPORTED PER YEAR

## HOW MUCH

**LUNG DISEASE COSTS THE NHS** NATIONAL HEALTH SERVICE **£ 11 Billion PER YEAR**

IN THE USA, THE TOTAL ANNUAL **ASTHMA** COSTS ARE ESTIMATED TO BE **$56 Billion**

THE **ECONOMIC IMPACT** OF **COPD** AMONG LOWER INCOME COUNTRIES IS EXPECTED TO INCREASE TO **£1.7 Trillion** BY 2030


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## Background:

Chronic inflammatory airway diseases are caused by a wide range of biological processes that result in significant loss of pulmonary function and quality of life.

Despite having substantial differences in underlying causes, these diseases are similar in clinical presentation, making them difficult to diagnose and deliver effective treatments. Unfortunately, there are currently no cost-effective and patient-friendly ways to characterize airway inflammation. This problem is underscored by an increasing number of drugs being developed that target specific molecular mechanisms, and so are effective for a subset of patients but have limited or no impact for others.

## Breath Biopsy Panel for Respiratory Disease:

The Breath Biopsy RUO Panel for Respiratory Diseases is intended to support research to distinguish underlying phenotypes of chronic inflammatory airway diseases such as Asthma, Chronic Obstructive Pulmonary Disease (COPD), and Idiopathic Pulmonary Fibrosis (IPF), and to facilitate better therapeutic decision making and monitoring.

The Panel consists of a set of biologically relevant volatile organic compounds (VOCs) that have demonstrable associations to inflammatory respiratory diseases, and can be collected on breath to enable direct characterization of disease biology in the lungs by non-invasive breath sampling.

- Published Literature
- Established Biological Evidence
- Breath Biopsy® Studies

## RUO Panel Compounds:

**Bio relevant, non-specific, general health indicator in respiratory disease**

Acetone

Isoprene

**Oxidation of fatty acids, amino acid metabolism, ketosis**

2-Hexanone

1-Propanol

2-ethyl-1-hexanol

**Lung Cancer**

1-Pentanol

2-Pentanone

Tridecane

3-Methylhexane

Heptane

Nonanal

Octane

**Produced by bacterial activity, enhanced in oral and airway infections**

Dimethylsulfide

**Oxidative stress, lipid peroxidation, inflammation**

Hexane

1-Pentadecene

Nonane

Undecane

**More information about using the Panel as part of Breath Biopsy Services: owlstonemedical.com/respiratory-panel**

OW-024711-MC-v2.0-06/2021