

## PROJECT PARTNERS

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3. **Stichting Katholieke Universiteit (SKU)**, Netherlands
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6. **Katholieke Univeriteit Leuven (KUL)**, Belgium
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10. **Universiteit Maastricht (UM)**, Netherlands
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13. **Anaxomics Biotech, S.L.(AX)**, Spain
14. **Hycult Biotechnology BV (HB)**, Netherlands
15. **Emergentec Biodevelopment GMBH (EMTEC)**, Austria
16. **Nanostring Technologies Inc (NSTG)**, United States
17. **Cliclab Technologies Inc (Cliclab)**, Spain
18. **Followhealth SL (hITc)**, Spain
19. **BYTE Factory Systems SL (BF)**, Spain



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DISCOVERIE

Development, diagnostic and prevention of gender-related Somatic and mental COmorbitiEs in iRritable bowel syndrome In Europe (DISCOVERIE)

PROJECT NUMBER

848228

PROJECT DURATION

2020/01/01 - 2024/12/31



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 848228

## BACKGROUND

In Europe, IBS represents a serious burden to the healthcare systems with current estimates indicating that 85 million citizens suffer from IBS. Many of them, up to 60%, also share mental comorbidities (generalized anxiety disorder and depression, the most common disorders affecting 25 to 44% of IBS), and somatic comorbidities (about 14% have chronic fatigue syndrome and 32.5% have fibromyalgia). The annual societal cost for IBS is around €43 billion in Europe.

## OVERALL AIM

The strategic goal of DISCOVERIE is to provide an enhanced understanding on IBS and comorbidities and their risk factors.

## SPECIFIC OBJECTIVES

- To provide a thorough clinical and psychosocial characterization of IBS patients affected by mental and non-mental comorbidities. We will look for depression, anxiety, fibromyalgia and chronic fatigue syndrome with a particular focus on age and sex/gender-related differences, and lifestyle (WP2).
- To determine mechanisms of intestinal and central nervous system function (WP4) underlying comorbidities in IBS, and their interaction with the peripheral microbiota-gut-brain axis. Specifically, we will look at epithelial barrier function and neuro-immune in the intestine (WP3) and at the neuroendocrine stress system, the function of nociceptive and affective-cognitive neuro-circuits in the brain (WP5).
- To unravel disease-specific genetic and epigenetic signatures of comorbid (mental or somatic) and multicomorbid IBS (WP6).
- To identify biomarkers specific for prevention, diagnosis and therapy of comorbid and multi-comorbid IBS through integrative data analysis (WP7).
- To validate identified biomarkers and pre-commercialize breakthrough diagnostic, predictive and therapeutic tests specific for comorbid and multi comorbid IBS (WP8).
- To determine the influence of life-style (sleep, physical activity, nutrition, stress and social interaction) on IBS and comorbidities physiology and behaviour through eHealth monitoring tools (WP9).
- To efficiently disseminate and exploit our results within the public and the scientific community (WP10)

## EXPECTED IMPACTS

- New directions for clinical research to improve prevention, diagnosis, prognosis, therapy development, and management of co- and multimorbidities:
- DISCOVERIE will translate specific comorbid IBS aetiological and physiopathological knowledge into clinical guidelines, which will be delivered direct to the European healthcare system (via symposiums, conferences, papers, a dedicated website).
- The creation of a European Reference Network for comorbid IBS (COIBSnet) involving healthcare providers across Europe.
- By incorporating a user board (involving national representatives of patient associations along with renowned specialists in the field, European healthcare experts and large pharma and SME representatives), into our management structure together with the direct participation of seven SMEs an effective translation of scientific findings to the market.
- Identified biomarkers for more accurate and earlier diagnosis, prognosis as well as monitoring of patients' condition:
- The proposal aims to identify and deliver breakthrough prognostic and therapeutic biomarkers, in the form of fast, non-invasive diagnostic tests (e.g. ELISA, point-of-care-tests, nCounter multi-omics) in non-invasive human samples (serum/plasma and/or faecal samples).
- We will use e-health tools (app) for personalized real-time assessment of clinical symptoms, and will go beyond by promoting intelligent health solutions (i-Health).
- At least 57% of SMEs (HB,EMTEC, NANOSTRING & HumanIT care) will introduce innovations to company/market.