



“Development of a novel blood-based diagnostic test for colorectal cancer”

ColoDetect

SME instrument – phase 2

Grant Agreement number: 666540

Deliverable 7.2

ColoDetect Website

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Authors: Juan Ignacio Imbaud

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Dissemination Level		
PU	Public, fully open, e.g. web	X
CI	Classified, information as referred to in Commission Decision 2001/844/EC	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, restricted under conditions set out in Model Grant Agreement	

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Partner n°	INSTITUTION	PERSON IN CHARGE
1	PROTEIN ALTERNATIVES SL	Juan Ignacio Imbaud Project Coordinator jimbaud@proteinalternatives.com

INDEX

	Page
1. Introduction.....	4
2. Logo Design.....	4
3. COLODETECT Community Trade Mark registration.....	6
4. Setup of the public website.....	8
5. Webpage design.....	8
6. Structure of the webpage.....	11
6.1. Home.....	11
6.2. About COLODETECT.....	14
6.2.1. Description.....	14
6.2.2. Partners.....	15
6.2.3. Publications & Reports.....	17
6.2.4. Events.....	17
6.2.5. Links.....	18
6.3. Patients.....	19
6.4. Science.....	20
6.5. News.....	22
6.6. Contact us.....	23
7. Conclusions.....	24

1. Introduction

The present report describes the project activity carried out by Protein Alternatives (PROALT) in the completion of Task 7.2 in Work Package 7 of COLODETECT project, consisting in the design and development of COLODETECT website.

According to the abovementioned task, the website to be created will consist in a public open access site that will contain, but not limited, the following information:

- General information on the project, project objectives, institutions involved in the project and their websites' links.
- Links to other EU initiatives, previously-funded projects, associations, National Health Agencies, and other public websites relevant will facilitate targeted information spread.
- General public explanations of the science & technology involved in the project to inform non-experts regarding the development of CRC earlier diagnostic methods. This will include socio-economical as well as ecological aspects.
- All the informative material and interactive tools will be available.
- Finally, the website will contain an upload feature to store report sheets, conclusions of meetings, background information, events and news.
- The website will experience regular updates during the project and after the end.
- Social media tools will be also contemplated.

COLODETECT public website is intended to disseminate the project information to different groups: health industry, medicine doctors, individual patients and patients associations, health authorities, among others.

To fulfill with this purpose, COLODETECT website has been carried out by PROALT, the final beneficiary of SME Instrument Phase 2 from Horizon 2020 programme. The website design and background structure has been created and hosted by Web4Bio, and the initial contents were prepared by PROALT. Web4Bio company also provides a basic software for its maintenance (DoPlanning), activity that will be performed regularly by PROALT.

2. Logo design

According to COLODETECT Task 7.2, an eye-catching logo must be designed as well as a complete corporative image of COLODETECT (presentations, logo, web design).

The desire of PROALT was that the logo of the project, and also its future diagnostic test, keep the same concept as the corporate. Therefore, the artist designer of PROALT logo was chosen to design the COLODETECT logo. The designer of COLODETECT logo and author of PROALT logo was Mr. Martín Pou, Graphic Designer.

Fig 1. CORPORATE logo:



Fig 2. COLODETECT logo options:

OPTION 1:



→ Including subtitles



→ Monochrome

OPTION 2:



→ Including subtitles



→ Monochrome

Fig 3. Pre-selected COLODETECT logo:



Fig 4. Selected COLODETECT logo:



The following aspects has been taken into account by the creator when designing the new logo:

- To keep the values that represents PROALT image of seriousness and simplicity and the symbol (the droplet) of PROALT. This will achieve a continuity of image and rapid association with the laboratory/company.
 - In the same way, corporate colors shall remain, for the same reasons.
 - Ability to add explanatory subtitle of the product (in both proposed options).
 - Both options also have a possibility of continuity with new products, without new designs.
- When the portfolio increases, we can implement color differentiation according to their types.

Logo description: The final version of the logo selected by PROALT (Figure 4) consists of the name of the project “COLODETECT” framed in a rectangle, with a blue drop out of the box placed next to the upper right corner. The project name is at the same time the registered brand of PROALT’s diagnostic test for colorectal cancer (in development) and is the main element of the logo.

The typography of the letters of the name is the same as the logo of the company PROALT. The typography is rounded, very simple and clean with dark grey capital letters. The line forming the rectangle is also dark grey. The dark grey color is the same color than the PROALT corporative logo, conveying an image of seriousness and simplicity.

Out of the box, and in the upper right corner, is placed a drop in blue colour. The drop is an element of PROALT logo. The drop replaces the letter A in PROALT brand. It has a simple geometric design, consisting of a triangle and a semicircle. The blue drop is a simple decorative element, which serves as a link with the corporate logo. The drop remembers and suggests the feature of this diagnostic test, an *in vitro* test blood. The drop colour blue is because blue is the universal colour of the medical area.

The logo as a whole is simple, geometric and minimalist: the project name and also the brand of the diagnostic test, framed in a rectangle evoke robustness, consistency and simplicity, three defining characteristics of the test COLODETECT. The blue drop is an artistic and differentiating factor that relates PROALT brand with its blood based diagnostic product.

3. COLODETECT Community Trade Mark registration

COLODETECT European Community Trade Mark registry was requested by PROALT to the Office for Harmonization in the Internal Market Trade Marks and Designs (OHIM).

The COLODETECT figurative Community Trade Mark was registered with the number **14665657**.



Products and services for which the mark is registered:

Class No. 5: Pharmaceutical preparations; Veterinary preparations and substances; Sanitary preparations for medical purposes; Dietetic foods adapted for medical use; Dietetic food adapted for veterinary use; Dietetic substances adapted for medical use; Dietetic substances adapted for veterinary use; Baby food; Nutritional supplements; Dietary supplements for animals; Plasters, materials for dressings; Teeth filling material; Dental impression materials; Disinfectants; Preparations for destroying vermin; Fungicides; Herbicides; Diagnostic preparations; In-vitro diagnostic kits for medical use; Molecular diagnostic reagents for cancer diagnosis; Medical diagnostic test kits for use in cancer diagnosis; Clinical diagnostic reagents; Diagnostic reagents for medical purposes; Chemical reagents for medical purposes; reagents and assays for testing blood; Immunoassays; Chemical, analytical and diagnostic reagents for in vivo use; Reagents sold as a unit for clinical diagnosis in the field of cancer diagnosis and analysis; Kits for the in vitro diagnosis of colorectal cancer in humans on the basis of blood samples; Diagnostic testing kits for cancer detection.

Class No. 10: Surgical apparatus and instruments; Medical apparatus and instruments; Dental equipment; Veterinary apparatus and instruments; Artificial limbs; Artificial eyes; Artificial teeth; Orthopedic articles; Suture materials; Apparatus for tumour diagnosis; Diagnostic apparatus for medical purposes; medical instruments for use in in-vitro diagnostic testing, monitoring and/or treatment; Membrane test plates for use in medical diagnostics.

Class No. 44: Medical services; Veterinary services; Hygienic and beauty care for animals; Agriculture, horticulture and forestry services; Medical diagnostic services; Medical analysis services; Medical analysis services for the diagnosis of cancer; Medical laboratory services for the analysis of blood samples taken from patients; Medical services relating to the removal, treatment and processing of human blood; Medical information; Human hygiene and beauty care.

Duration: Until 13 October 2025, i.e. ten years from the date of application, renewable indefinitely.

4. Setup of the public website

Two identical websites domains have been defined for COLODETECT project.

- **Colodetect.com** in English language is addressed to the European and worldwide public.
- **Colodetect.es** is the Spanish language version addressed to the national (Spain) web visitors and to the Spanish speaker public in general.

Both web domains are directed toward the same website.

The official registration of these domains name are:

www.colodetect.com

www.colodetect.es

5. Webpage design

The company Web4Bio (Web and Multimedia for Science S.A.) has developed COLODETECT website upon PROALT's request. Web4Bio (www.web4bio.com) specializes in web design and development as well as multimedia products for the Biomedicine and Biotechnology sectors: hospitals, biotech companies, scientific networks, biomed professional associations, research groups, foundations, etc.

Web4bio has been chosen amongst other companies on the basis of the quality of its services, its competitive prices and its experience on the development of scientific websites. In fact, Protein Alternatives website was developed by Web4Bio.

Web4Bio produced two proposals for the design line (corresponding to the home page). One of these two proposals was chosen by PROALT because its design (colors, fonts, pictures, background, etc.) represents the project objectives. From this proposal Web4Bio made a page layout content (corresponding to the pages of sections of the website).

Criteria of positioning (SEO), usability, etc. were taken into account for the definition of the structure. Once published the web, the administrator (PROALT) can make changes to the structure using the tool DoPlanning Web developed by Web4Bio.

The design produced represents a visualization of the web in a browser window that occupies the entire screen of 1600 pixels wide. The content area of the web does not occupy more than 1170 pixels wide. This maximum width does not apply to specific design features, such as background images designed to occupy the entire width of the window.

The website has been developed so that its contents fit to be shown on different screen sizes, and thus can be viewed from mobile devices. Therefore, the appearance of the web will vary depending on the device where it is displayed:

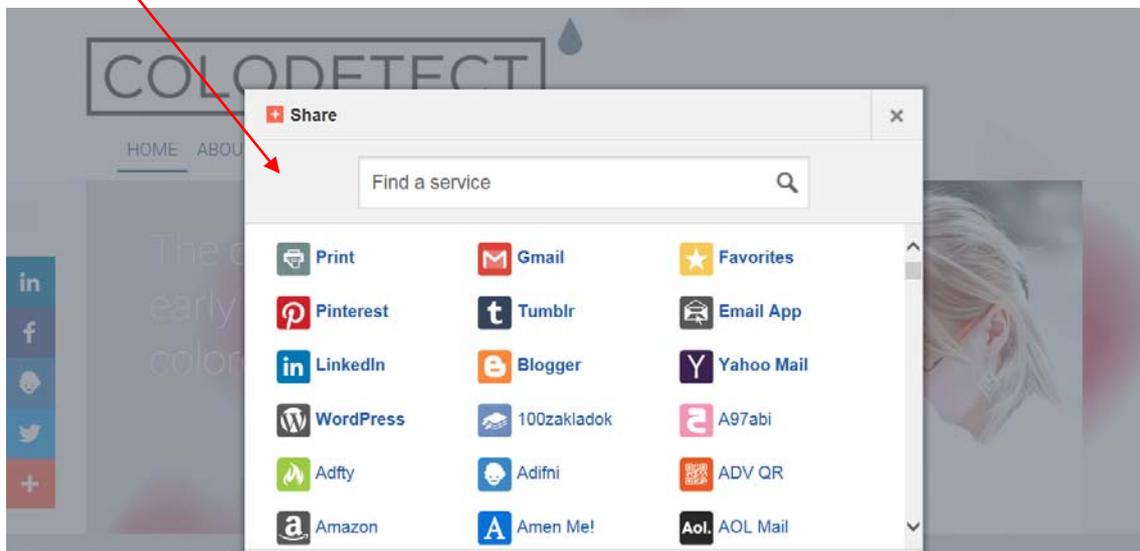
- Most of the web elements (images and texts) are repositioned in an orderly manner according to the width of the device screen.
- The main menu collapses to a button that controls its deployed.
- Some of the web elements can be hidden when the web is displayed on small screens for an easier reading.
- Finally, in some cases the style of some elements of the web (i.e. text sizes or margins) can be adjusted to vary depending on the size of the screen.

Webpage elements:

- **Logo:** COLODETECT logo is present on the top of each page.
- **Banners:** Several banners have been placed at the top of each page of the sections of the website. Three images have been used in the "Home" page and one image has been used in each of the pages "About Colodetect", "Patients", "Science", "News" and "Contact Us". A total of eight different carefully-selected images reflects some critical concepts that PROALT wanted to relate with the project, like elderly patients (the risk group), a schematic representation of an antibody (the biomarkers), the biomedical research and clinical application. (see also 5.1 Home, section). The leitmotiv in these banners is "*The challenge of early diagnosis of colorectal cancer*".
- **Social Networks:** COLODETECT website has integrated several tools which allow easily to share the information contained in the webpage through the most important social networks in trending topics, including the most popular for each age segment: Twitter (Twitter is a micro-blogging network of real-time posts that are limited to 140 characters or less), Facebook (Facebook

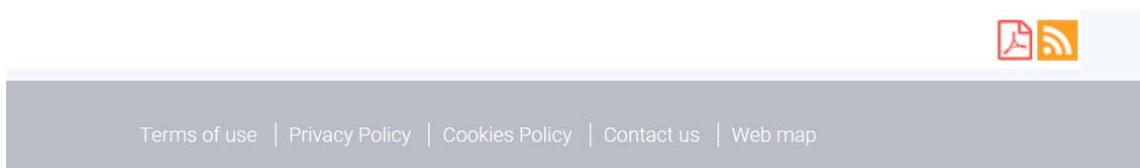
is the world's largest social network), [LinkedIn](#) (LinkedIn is the social network for work professionals), [Blogger](#), [Pinterest](#), [WordPress](#), [Gmail](#), [Yahoo mail](#), among others.

The webpage contains several easy-to-access buttons at the left side for these purposes.



Print and E-mail buttons are also placed beside social network buttons.

At the bottom of the page the following sections are placed: Terms of use, Privacy policy, Cookies policy, Contact us, Web map.



Documents in pdf format including the text information and images can be generated in each page (section) at any time by clicking the pdf icon.



The reader can select the icon to subscribe to a RSS feed.

6. Structure of the webpage

The structure of the webpage is as follows:

- 6.1 Home
- 6.2 About COLODETECT
 - 6.2.1 Description
 - 6.2.2 Partners
 - 6.2.3 Publications & Reports
 - 6.2.4 Events
 - 6.2.5 Links
- 6.3 Patients
- 6.4 Science
- 6.5 News
- 6.6 Contact us

6.1 Home

Home section is divided into three parts:

- First part contains COLODETECT logo which is placed on the top of the screen, social media networks buttons are placed on the left. Below COLODETECT logo: the sections (Home, About COLODETECT, Patients, Science, News and Contact us), and slider images (three images) with the leitmotiv *“The challenge of early diagnosis of colorectal cancer”*.
- The second part consists of the full name of the project and the name of the company Protein Alternatives that develops the project. Protein Alternatives’ name is linked to its own webpage. The latest news generated by the project are shown in a small square area at the right side of the page. The acknowledgement to the European Union (EU) funding, EU emblem and grant agreement number are placed in the middle of the screen to provide them with high visibility.
- The third part of the screen, in grey color, is located at the bottom of the page and briefly explains the objective or aim of the project.

Moreover, the home page is not static and contains three different interchanging images (dynamic banner), to make it active and attractive to the eye.

Fig 5. Full screen capture of HOME page

The challenge of early diagnosis of colorectal cancer



[ESPAÑOL](#)

COLODETECT

Novel blood-based diagnostic test for colorectal cancer developed by PROTEIN ALTERNATIVES



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement number 666540.

NEWS

10/01/15 - PROALT Press release - Protein Alternatives receives Horizon 2020 SME instrument funding to develop its project for colorectal cancer diagnostic. PROTEIN ALTERNATIVES S.L (PROALT) is the only successful applicant from Spain...

Early detection of colorectal cancer (CRC)

The objective of the project is the development and commercialization of a blood-based diagnostic test for the early detection of CRC. The outlined test will detect several antibodies generated by the immune system from patients against the tumor. These auto-antibodies appear at detectable levels in patient's blood before symptoms and allow early diagnosis. CRC is the second most frequent and most deadly neoplasia worldwide. Survival rate is highly related to cancer stage at diagnosis. Only 30-40% of colon cancer cases are diagnosed in early stages. More than 9 in 10 colon cancer patients will survive the disease for more than 5 years if diagnosed at the earliest stage. The simplicity of COLODETECT will allow the screening of large population at risk. COLODETECT avoids the obvious limitations provided by the invasive detection techniques extensively used, as the colonoscopy, and offers additional advantages compared to traditional CRC diagnostic methods, such the simplicity in applications, detection, accuracy and a reduced cost.



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Fig 6. Dynamic Banner at HOME page (Image no. 1)



Fig 7. Dynamic Banner at HOME page (Image no. 2)



Fig 7. Dynamic Banner at HOME page (Image no. 3)



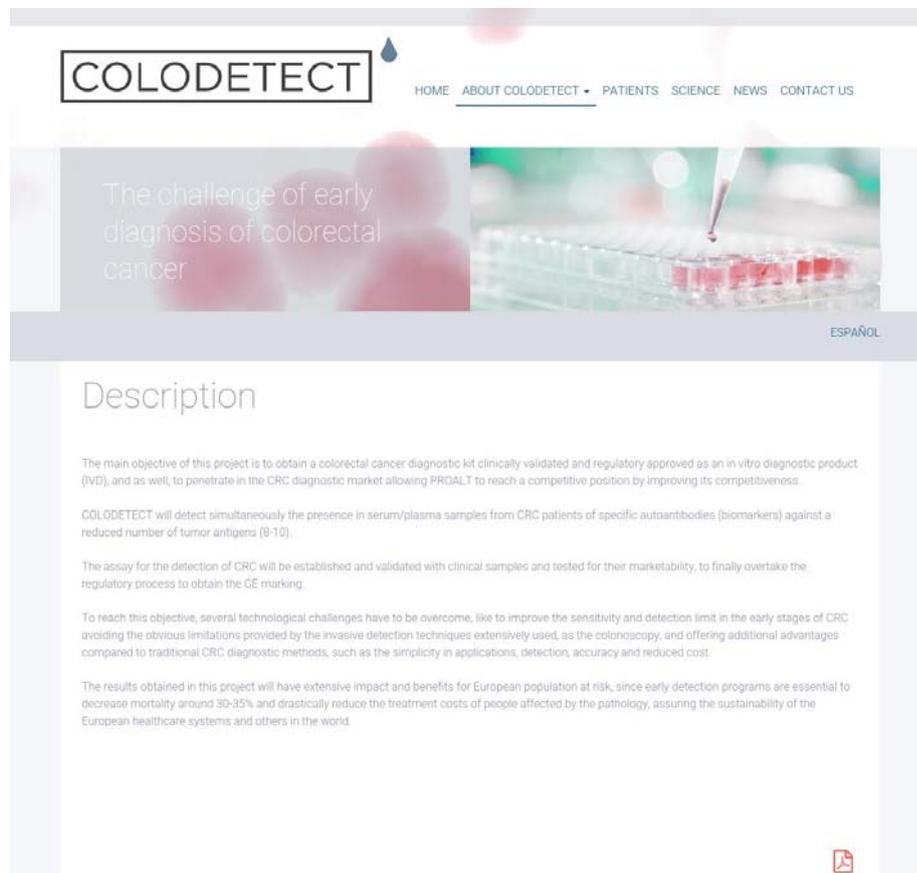
6.2 About COLODETECT

This page contains general information about the project, and information of interest for the different publics. It is structured or divided into five (5) different sub-menus:



6.2.1 Description

COLODETECT project is presented in this section. Briefly, this section outlines the project objective and the challenge of early screening. This section also compares COLODETECT with current available diagnostic methods for colon cancer and outlines the expected benefits for the European population and European healthcare systems and others in the world.



6.2.2. Partners

This section shows information about PROALT's partners that will help the company during the development of COLODETECT: Azurebio (a Spanish biotechnology company); Spanish National Research Council (CSIC)-Centre for Biological Research (CIB); Innobiochips (a French, biotechnology company); Hospital Universitario Ramón y Cajal (RyC) and Consorci Institut D'investigacions Biomediques August Pi I Sunyer (IDIBAPS).

Information of each partner consists of the Institution/Company logo, its Organization webpage address (and link), a link to the participating group webpage, and a brief comment about the company, and/or the research institution, and/or the participating group.



The screenshot shows the COLODETECT website. At the top, there is a navigation bar with the following links: HOME, ABOUT COLODETECT (selected), PATIENTS, SCIENCE, NEWS, and CONTACT US. Below the navigation bar, there is a banner with the text "The challenge of early diagnosis of colorectal cancer" and an image of a laboratory setup. A language selector "ESPAÑOL" is visible in the bottom right corner of the banner. The main content area is titled "Partners" and features two partner profiles:

Protein Alternatives (PROALT)
www.proteinalternatives.com

PROALT
PROTEIN ALTERNATIVES

ProAlt is the recipient of an SME Instrument (Horizon 2020) grant to develop its project COLODETECT.

Protein Alternatives (ProAlt) is a biotechnological company founded in 2006 and focused on the development and commercialization of biomarker-based assays for cancer diagnosis and clinical management. Its business model covers the different stages in the biomarkers assays chain, including markers identification and validation, assay development and clinical validation, assays regulatory approval, and a commercialization strategy combining direct sales with partnerships and out-licensing deals.

ProAlt also offers different products and services related to protein/antibodies production and protein expression. Products offer includes its own manufactured innovative proteins and antibodies. Services include protein expression, antibodies generation and recombinant antibodies production. One of ProAlt's competitive advantages is that it works with three different but complementary expression systems: E. coli (bacterial system), baculovirus in insect cells and mammalian cells.

Azurebio
www.azurebio.com

azurebio

AzureBio is an innovative biotech company founded in 2007 and focused on the development of medical devices in human health by incorporating discoveries in biomaterials into clinical practice.

AzureBio started as a drug formulation services company providing solutions in development of lyophilisates and liquid formulations of small molecules, peptides, proteins and vaccines. AzureBio has applied its expertise in pharmaceutical development in the formulation of small molecules, biologicals and peptides in a wide range of formats including diagnostic reagents and array systems.

Over the years AzureBio has grown to design and develop its own products for dental applications. Si-Oss is a new synthetic bone regeneration biomaterial that provides improved in vivo performance over other commonly used commercial bone regenerators.

With the goal of contributing to human health and providing quality services, the company incorporates experienced scientists and laboratory capabilities, and has established close collaborations with clinicians and prestigious research institutes.

Presently AzureBio is participated by venture capital funds and industrial partners.

Spanish National Research Council (CSIC) - Centre for Biological Research (CIB)

www.csic.es/home



CSIC is the largest public institution dedicated to research in Spain and the third largest in Europe. Belonging to the Spanish Ministry of Economy and Competitiveness, its main objective is to develop and promote research that will help bring about scientific and technological progress. It has a staff of more than 13,000 employees, among these about 3,300 are permanent researchers and about 4,300 are pre- and post-doctoral researchers. CSIC has 71 institutes or centres distributed throughout Spain. In addition, it has 54 Joint Research Units with universities or other research institutions. There is also a delegation in Brussels. Under the 7th Framework Programme CSIC has signed 724 actions (including 62 coordinated by CSIC and 45 ERC projects). Funding wise, CSIC is listed the 6th organisation in Europe in the 7th Framework Programme. As to the number of projects signed by CSIC within each programme, the distributions is People 36.4%, Cooperation 32.1%, Capacities 25.2% and Ideas 6.3%. In addition, CSIC presents a large participation in other European programmes as LIFE+, INTERREG, EMRP, RFCS, ERANET, etc.

CIB is one of the research centres with greater prestige and tradition in the Spanish National Research Council (CSIC), and has been at the forefront of biological research since its creation in 1958. The initial activity of the CIB was focused mainly on studies in the fields of biology and biomedicine, but currently the CIB is a multidisciplinary Centre, bringing together researchers in the areas of biology, agricultural sciences and chemistry.

Dr. Ignacio Casal (CIB) group has done extensive research on the identification and validation of new biomarkers in colorectal cancer by applying proteomic strategies. This group has published numerous scientific works in the biomarker field and holds several patents regarding the use of autoantibodies as colon cancer biomarkers for early diagnosis and prognosis.

Innobiochips

www.innobiochips.fr/



Innobiochips is a diagnostic company founded in 2008 and located in Lille (North of France).

Innobiochips has developed multiplex diagnostics technology called SirYus®, based on an innovative method of surface treatment. The technology transforms each well of a standard 96-well plate into a fully miniaturized device capable of running multi-parametric diagnostic analyses.

Innobiochips is ISO 13485 certified for design, manufacturing and selling of IVD products since 2013.

Consorci Institut D'investigacions Biomediques August Pi I Sunyer (IDIBAPS)

www.idibaps.org/en_index.html



IDIBAPS is a public research centre dedicated to translational research in the field of biomedicine. Its mission is to integrate state of the art basic research and quality clinical research. Founded in 1996, IDIBAPS is formed by the Catalan Ministry of Economy and Knowledge, the University of Barcelona's Faculty of Medicine, the Hospital Clinic de Barcelona (HCB) and the Institut d'Investigacions Biomèdiques de Barcelona of the Spanish Council for Scientific Research. As such HCB can be considered a third party of IDIBAPS. The institution is very active in scientific research. The number of publications has shown a constant growth. In 2012 there were 1,026 original publications in high impact factor scientific magazines, many of which were collaborative studies in which different institutional teams joined their investigative efforts. The global impact factor was 5.334, showing a yearly progression of 13.24%. Of these publications, close to 60% are in the first quartile of impact in their field. Moreover, IDIBAPS has a strong track record working in European projects and a dedicated European Projects Office. This office managed 29 projects in FP5 (1 as coordinator), 42 projects in FP6 (11 as coordinators) and 101 projects in FP7 (29 as coordinators).

The **Gastrointestinal and Pancreatic Oncology Research Group, led by Dr. Antoni Castells**, is part of the "Liver, Digestive System and Metabolism" section in IDIBAPS, and it includes researchers who combine their skills in clinical, experimental and basic research. Its translational research approach has succeeded in contributing important breakthroughs in terms of knowledge, diagnostic techniques and treatment of gastroenterology diseases.

Hospital Universitario Ramón y Cajal

www.madrid.org/cs/Satellite?pagename=HospitalRamonCajal/Page/HRYC_home



Hospital Ramón y Cajal is a 950 bed University Hospital (affiliated to Universidad de Alcalá de Henares). It ranks first in Madrid and third in Spain in production of biomedical research. The Hospital serves a catchment area of around 650,000 persons.

Concerning this project, the hospital comprises:

- **Health Research Ramón y Cajal Institute (IRYCIS)**, an established independent research institute that encompasses basic, translational and clinical research department, with all the required infrastructures to perform phase I to IV clinical trials, including full laboratory and imaging equipment.

- **Ramón y Cajal Biobank**, a hospital-related platform aimed at promoting basic/clinical research that may lead to the development of tools for the prevention, diagnosis and discovery of therapeutic targets. The IRYCIS Biobank facilitates access to human samples for researchers, ensuring that both the acquisition and use of human samples adheres to legal and ethical principles that protect donors' rights. The operation of the IRYCIS Biobank was certified by the health authorities of the Community of Madrid as regulated in RD1716/2011 and listed on the National Register of Biobanks with reference B.000678. This certification guarantees that the IRYCIS Biobank complies with the quality management, traceability and biosafety requirements of Law 14/2007 on biomedical research and Royal Decree 1716/2011. The Biobank got the certification of quality management systems ISO 9001:2008 in September 2010. Samples and their associated information are collected in accordance with Spanish legislation and international recommendations; all of this is consistent with quality criteria in sample collection and its subsequent management.

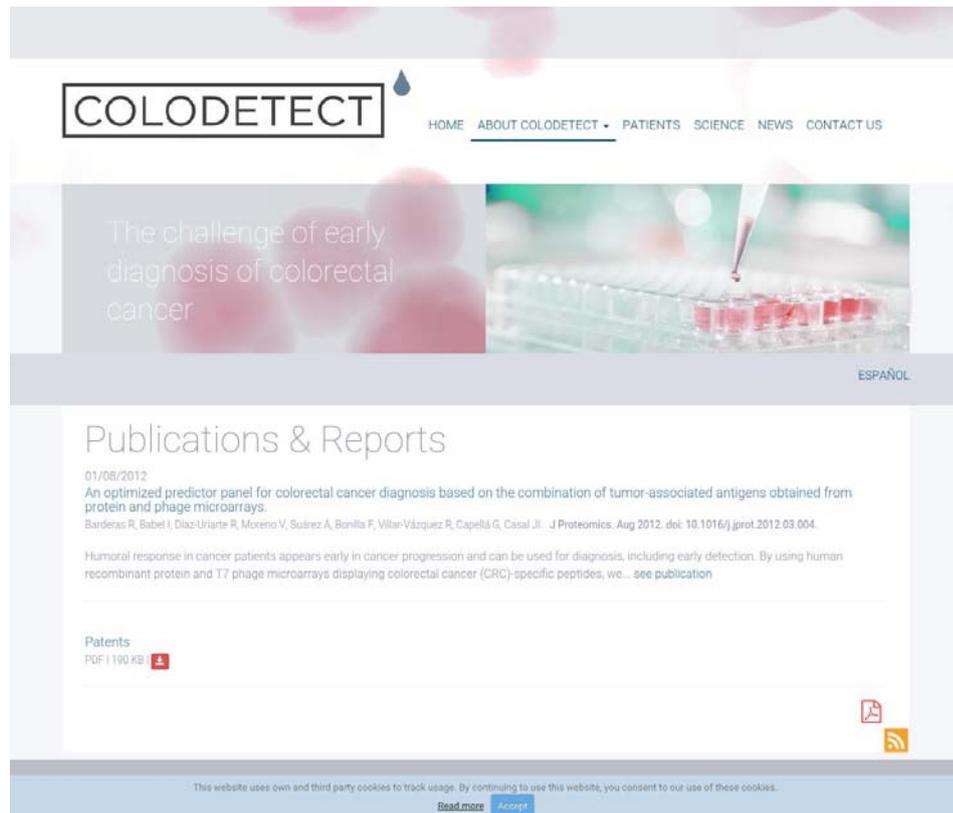
- **Foundation for Biomedical Research of the Hospital Universitario Ramón y Cajal (FIBioHRC)** manages the financial and administrative aspects of the Hospital's involvement in the project. Therefore FIBioHRC is the third party linked to Hospital Universitario Ramón y Cajal in order to manage the administrative tasks of the hospital in regard with research activities, as well as carrying out certain research activities. FIBioHRC has a wide experience in the design and implementation of the appropriate management structure and procedures necessary for streamlining the coordination of members' efforts in order to ensure the correct evolution of project steps and the achievement of project objectives. The Hospital has a prior agreement with this non-profit foundation by means of which the latter handles the financial and administrative aspects of the Hospital's involvement in research projects, including all issues relating to the employment and payment of additional personnel, purchase of equipment and consumables, etc. The Foundation is situated in the premises of the Hospital.



6.2.3. Publications & Reports

This section will be fed with publications from PROALT's research activity related to the diagnostic test in development, and will also include any other relevant information related to COLODETECT project, such as public-access type deliverables and the summary of patents protecting the inventions if necessary.

Information can be downloaded in pdf files. The icon will show the size of the file.



6.2.4. Events

This section informs about International and well-known conferences related to colon cancer as well as other general conferences in which PROALT will participate.

Each event shows:

- the name of the event,
- the date
- the celebration place,
- the link to its website, where the reader can find more specific details about the event.

COLODETECT HOME ABOUT COLODETECT PATIENTS SCIENCE NEWS CONTACT US

The challenge of early diagnosis of colorectal cancer

ESPAÑOL

Events

New Orleans, Louisiana, USA, 16/04/2016 - 20/04/2016
AACR Annual Meeting
[see event](#)

Chicago, Illinois, USA, 03/06/2016 - 07/06/2016
ASCO Annual Meeting
[see event](#)

San Francisco, EEUU, 06/06/2016 - 09/06/2016
BIO International Convention
[see event](#)

Manchester, United Kingdom, 09/07/2016 - 12/07/2016
24th Biennial EACR Congress
[see event](#)

Bilbao, Spain, 28/09/2016 - 30/09/2016
BIOSPAIN 2016
[see event](#)

Copenhagen, Denmark, 07/10/2016 - 11/10/2016
ESMO Congress
[see event](#)

Munich, Germany, 29/11/2016 - 02/12/2016
EORTC-NCI-AACR Molecular Targets and Cancer Therapeutics Symposium
[see event](#)

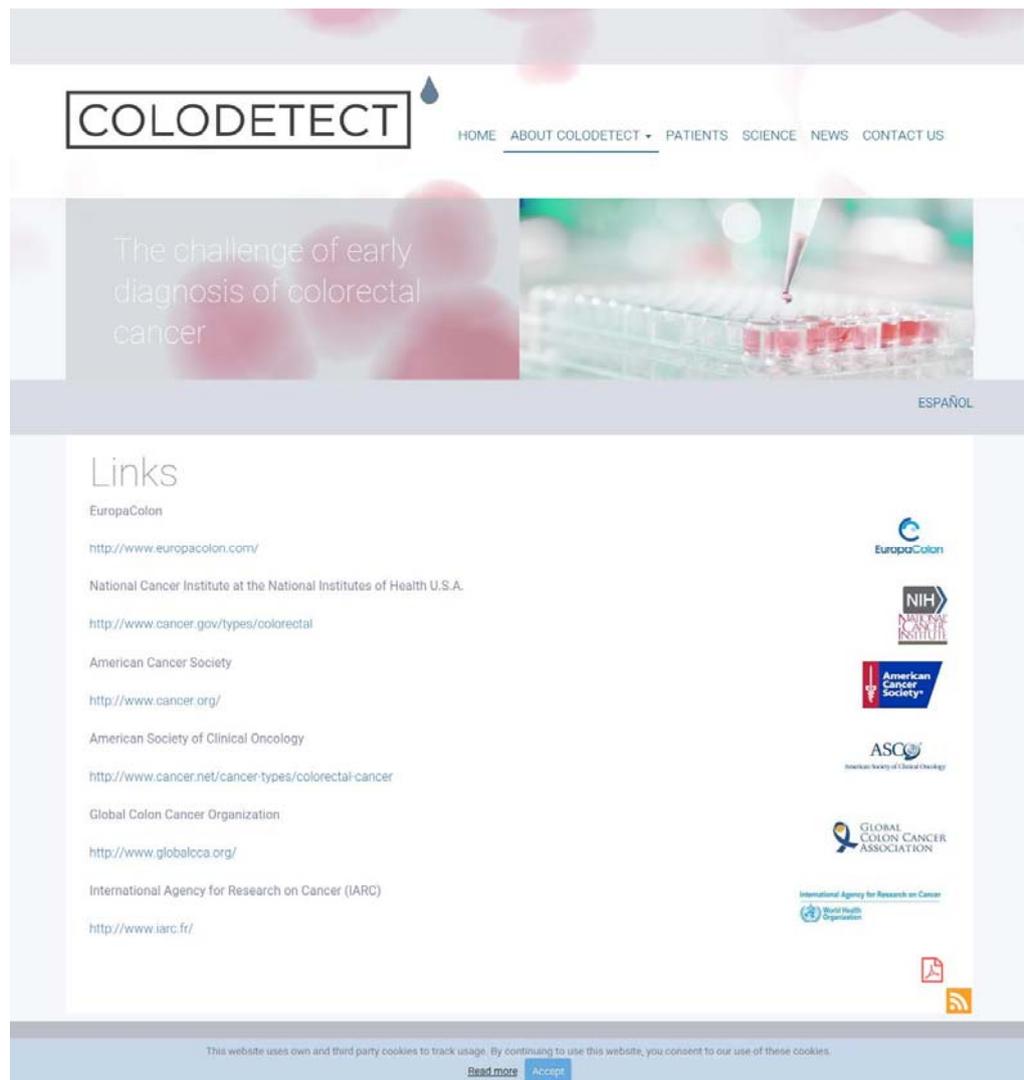
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6.2.5. Links

The links listed correspond to important international medical and patient association, agencies and governmental organizations:

- EuropaColon,
- National Cancer Institute at the National Institutes of Health U.S.A.,
- American Cancer Society,
- American Society of Clinical Oncology,
- Global Colon Cancer Organization and International Agency for Research on Cancer (IARC).

It shows the organization's name, logo and website.



6.3 Patients

This section is intended for patients and / or patients associations, i.e. the general public. Its intention is to explain in a simple language:

- i. epidemiology of colorectal cancer (CRC) and the importance of early screening.
- ii. risk factors that increase the chance of developing CRC
- iii. COLODETECT features: blood-test, non-invasive, easy to use, early detection, sensitivity and specificity.

The challenge of early diagnosis of colorectal cancer



ESPAÑOL

Patients

Colorectal cancer (CRC) is the cancer of the colon or the rectum. Approximately 1.4 million people worldwide are diagnosed with CRC each year, therefore CRC is the most common cancer and its mortality rate is 50% of its incidence.

Despite these data if the disease is detected in its early stages, treatment is often able to cure it completely, usually through surgical procedures. When colorectal cancer is found at the early stage 90% of the patients live at least 5 years (many patients live more than 5 or 10 years, and many are cured).

Therefore, the challenge of the diagnostic tests of CRC is to achieve the early detection of the disease. Currently, just 30-40% of CRC cases are diagnosed in early stages.

Several risk factors increase your chance of developing CRC:

1. **Age** increases the risk to develop CRC: More than 9 out of 10 people diagnosed with colorectal cancer are at least 50 years old.
2. **Medical conditions:** previous cancer in the large intestine, colorectal polyps, Inflammatory Bowel Disease (Ulcerative colitis and Crohn's disease), women with breast, uterin and ovarian cancer history.
3. **Family history** of CRC or adenomatous polyps.
4. **Lifestyle and diet:** A sedentary lifestyle and obesity, and a diet rich in red meat, processed meats and fats but low in fresh fruit, vegetable, poultry and fish, are linked to colorectal cancer.
5. **Smoking** and excessive **alcohol** consumption.

Most colorectal cancers start with the abnormal growth (polyp) on the inner surface of the colon or rectum. Approximately 15-20% of the adult population is affected by colon and rectal polyps. Most, however, do not progress to malignancy, but about 1 in 10 polyps can enlarge and become cancerous over time.

COLODETECT is a diagnostic test for the early detection of colorectal cancer. Immune system from patients reacts against the tumor generating several proteins (antibodies) that can be measured in a simple blood test at the beginning of the disease and before symptoms are present.

COLODETECT sensitivity (89%) and specificity (90%) are above that of commonly used diagnostic tests such as fecal occult blood test.

COLODETECT requires only one conventional blood extraction, non-invasive, easy to use for screening of large populations at risk and low cost versus other high complexity available diagnostic tools such as colonoscopy, tomography (CT) resonance (MRI), etc.



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6.4 Science

Because its technical language and terminology, the section Science is directed to health-care professionals or researchers having a scientific or technical knowledge. The section will be updated according to the progression of the project, and will initially include a brief information about:

- i. epidemiology of colorectal cancer (CRC) in the world,
- ii. limitations in current diagnostic tools,
- iii. key concepts related to PROALT's scientific approach, like Tumor Associated Antigens (TAA's) and auto-antibodies, multiplex assays,
- iv. clinical validation results of the kit in development (only if PROALT consider it appropriate).
- v. simple description of how the test works (once developed and marketed), its main applications (early detection, screening, patient's stratification, others) and its advantages and limitations compared to other methods of CRC diagnostic currently on the market.

The screenshot shows the website for COLODETECT. The header includes the logo and a navigation menu with links for HOME, ABOUT COLODETECT, PATIENTS, SCIENCE, NEWS, and CONTACT US. The main content area features a banner with the text "The challenge of early diagnosis of colorectal cancer" and an image of a person using a pipette. Below this, the "Science" section is titled "Epidemiology of colon cancer" and contains a paragraph about CRC statistics, a detailed paragraph about diagnosis stages and survival rates, a section on "Limitations in current diagnostic tools" with a bulleted list of five points, and a concluding paragraph about the need for new detection methods.

COLODETECT [HOME](#) [ABOUT COLODETECT](#) [PATIENTS](#) [SCIENCE](#) [NEWS](#) [CONTACT US](#)

ESPAÑOL

Science

Epidemiology of colon cancer

Colorectal cancer (CRC) is the second most common neoplasm in men and women, with one million new cases per year worldwide. It is also the second most deadly cancer with 500.000 people dying every year worldwide (European Cancer Institute).

CRC is often diagnosed in later stages, drastically worsening prognosis. The disease develops slowly over many years. Most of these cancers start as a polyp, a growth of tissue that starts in the lining and grows into the center of the colon or rectum. Over time some polyps develop as malignant tumors. It is estimated that only around 30-40% of colon cancers are diagnosed in early stages, and later diagnosis is strongly correlated with poorer prognosis. While cancer diagnosed in early stages (T0-T1) has a 95-100% 5-year survival rate, those diagnosed in medium stages (T2-T3) have a 48-60% survival rate and those diagnosed in advanced stages (T4) have just a 3% survival rate (National Cancer Institute). Early detection programs are essential to decrease mortality around 30-35% and it is more than necessary to develop specific biomarkers for an efficient early diagnosis or prevention.

Limitations in current diagnostic tools

Current available diagnostic tools for CRC show different technical, economical and complexity-related limitations:

- Symptoms appear in late stage so detection based on them leads to a delayed diagnosis.
- Invasive procedures, such as colonoscopy, have good detection capacity but are invasive, complex to perform, costly and potentially can originate serious complications. They are not suitable for frequent population screening. Barium enema is less invasive but its detection capacity is more limited.
- Radiologic diagnosis technologies, such as CT or MRI, offer good detection capacity, but are expensive and complex to use for regular patients screening. Further, CT exposes patients to a non-acceptable amount of radiation for screening purposes. These technologies are suitable for confirmation of suspected pathology.
- Fecal occult blood tests (FOBT) are simple to use and inexpensive. However, their detection capacity is limited. These tests miss a relatively large proportion of cancers, mainly at early stages, severely delaying diagnosis in those patients. FOBT tests also falsely identify as potential cancer different benign situations (e.g. polyps) or even normality, forcing to perform unnecessary more complex, invasive and expensive explorations.
- Biomarker genomic tests are non-invasive methods, but with a high cost and limited detection capacity and mainly reflects genetic predisposition instead of proving the disease is present.

Due the obvious limitations of these classical detection techniques, is necessary to develop new detection methods in order to overcome the associated inconveniences and, consequently, offer a fast and reliable solution for the clinicians.

Autoantibodies and Tumor Associated Antigens (TAA's)

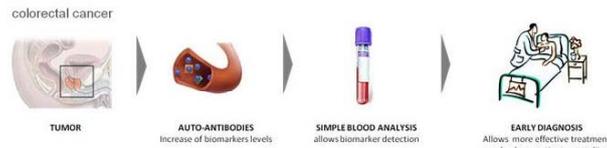
The innovative technological approach of COLODETECT is based on detecting in blood the auto-antibodies generated by human body against proteins related to the colorectal cancer tumor.

An auto-antibody is an antibody (a type of protein) produced by the immune system that is directed against one or more of the individual's own proteins, such as the tumor antigens present in an cancer.

Tumor-associated antigens (TAA) can derive from any protein or glycoprotein synthesized by the tumor cell. Tumor proteins can be affected by specific point mutations, misfolding, overexpression, aberrant glycosylation, truncation, or aberrant degradation.

Immune system from patients reacts against this TAA's of the tumor generating several auto-antibodies that can be measured in a simple blood test. The advantage of auto-antibodies as biomarkers is that they appear at detectable levels in patient's blood early, allowing earlier diagnosis before symptoms are present and even before other types of biomarkers can be measured. Another auto-antibodies feature that makes them suitable for utilization as biomarkers is their high relative concentrations, extended long half- life and good stability in blood.

COLODETECT will simultaneously detect specific autoantibodies (biomarkers) against a reduced number of tumor antigens in serum/plasma samples from CRC patients.



COLODETECT IVD test

COLODETECT is based on analyzing a person's blood to detect autoantibodies related with the disease. The test will consist of a multiplexed immunoassay based on a standard Enzyme-linked immunoabsorbent assay (ELISA). The goal is to conjugate the simplicity of ELISA with the power of microarrays.

Screening of populations with this test will achieve earlier detection of a greater number of patients, which will involve better treatment options to improve patient's survival and will reduce treatment costs.

COLODETECT will offer potential significant advantages over current diagnostic tools for that pathology, like its solid detection capacity in early stage of disease and simple use. Its sensitivity and specificity are expected to be around 85-90% based on initial markers verification experiments. These parameters are higher than those of currently used tests, and are adequate for its usage as a screening tool in large populations.



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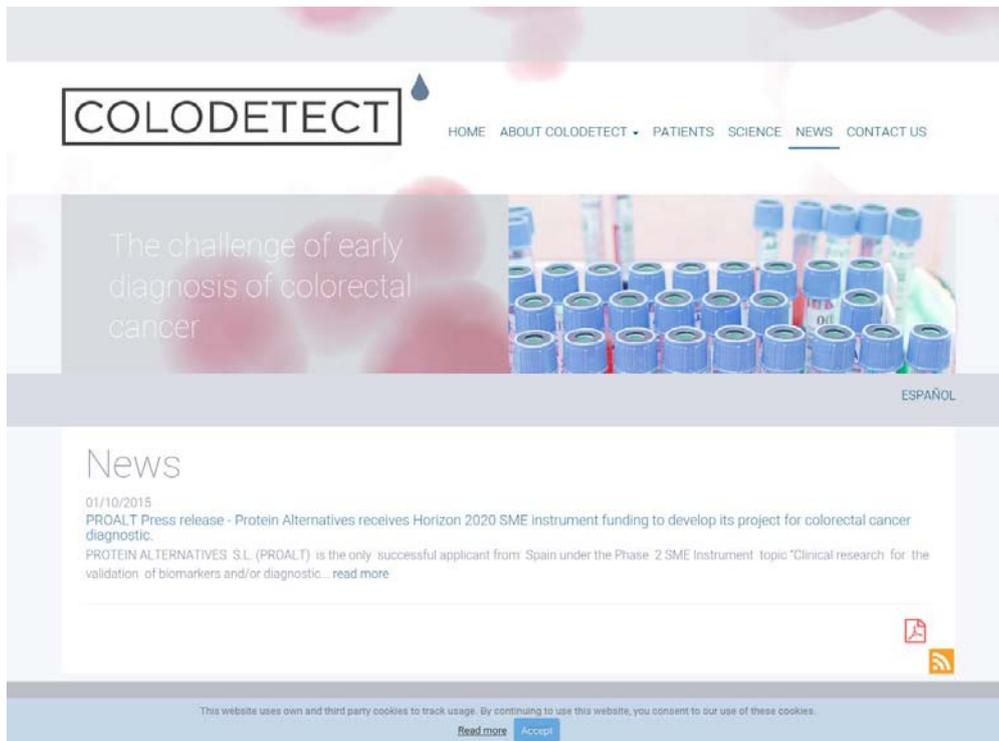
[Read more](#) [Accept](#)

6.5 News

News is the section for COLODETECT press releases and other news that will be generated by PROALT during the life time of the project. Its format presents the date of the publication in the first line, followed by the title in bold. The title links to another layer of the web where the reader can find the complete information and will also have the option to obtain the news in pdf format.

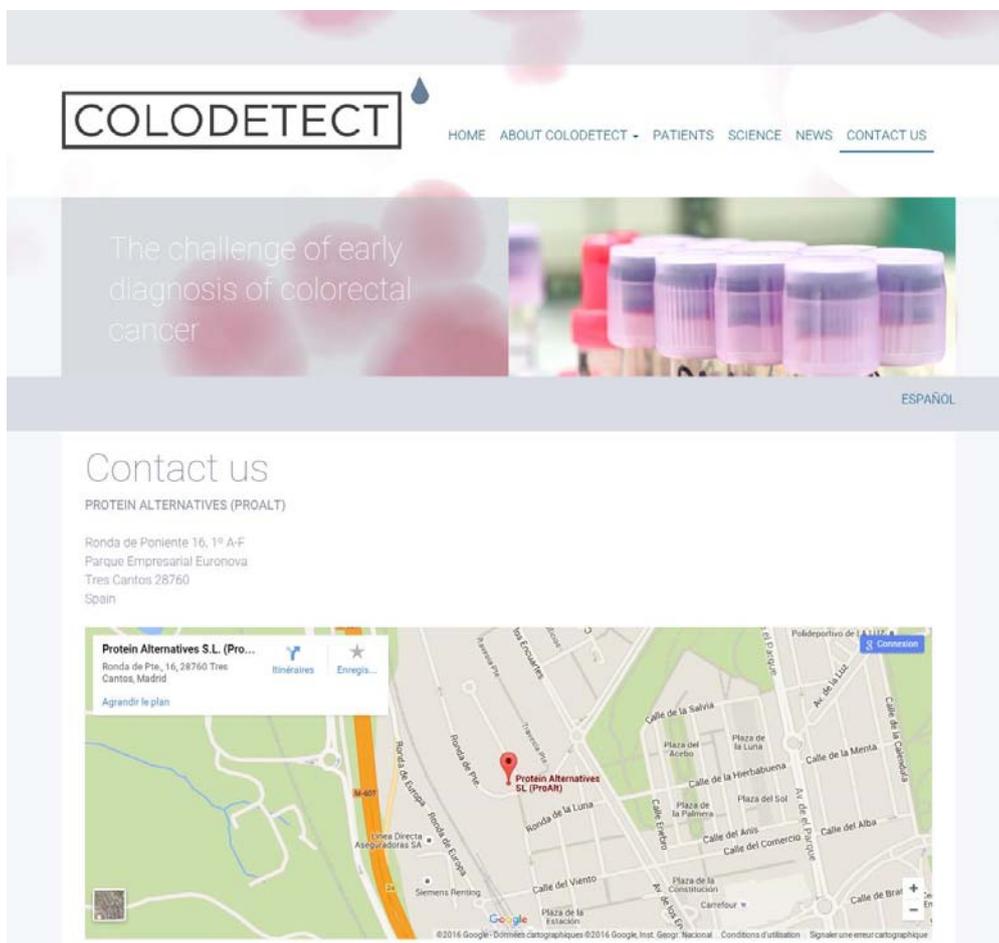
The third line is the first line of the news which ends with “read more” hyperlinked to the layer with the complete information.

The reader has also the option to print the information or share the information through RSS.



6.6 Contact us

This section provides the possibility to contact PROALT through a contact form. It also shows PROALT's address and a map of PROALT location.



Contact form

Name

Email *

Phone

Message

Verification text *

8 f /

Please write the text that appears in the image

Send

* Required fields.

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7. CONCLUSIONS

COLODETECT website meets the requirements of the project's dissemination objective and is an important element to facilitate market entry of this diagnostic product.

This website provides visibility of the project funded by the SME Instrument - Horizon 2020 and will promote its exploitation. The project results will be disseminated swiftly and effectively to a large number of people and stakeholders (biopharmaceutical industry, the healthcare industry, insurance companies, health administration, patients and patient associations).

An important number of links (websites of COLODETECT partners, events and associations) will facilitate positioning of the site, as well as social media networks and RSS.

Google analytics tool will provide information on the interest of contents and will be an effective way to PROALT to measure the impact and/or interest of the webpage designed to promote COLODETECT project.