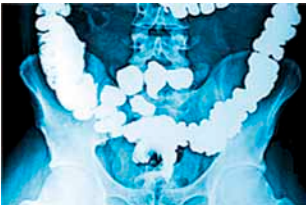


**DigestScience Foundation has been committed since its inception in 2008 to developing research into Digestive Diseases:**

**DigestScience Foundation:  
Two calls for proposals:  
one in 2009 and another in  
2011, and promising results  
are already showing.**



### **2009/2010: FIRST STEPS IN CELL THERAPY FOR CROHN'S DISEASE**

*DigestScience Foundation funded an initial research program to develop a new therapeutic strategy called cell therapy, which was designed for Crohn's disease. A year later, the Dutch team under Professor Daniel Men at Leiden published initial results in the European Gastroenterology journal GUT.*

This **phase one clinical study was performed on 9 patients suffering from chronic active Crohn's disease, which is resistant to conventional therapy.** All these patients underwent aspiration of 100ml of bone marrow by local anaesthesia allowing for the culture, isolation and purification of mesenchymal stromal cells. Several millions of these cells were then reinjected intravenously with autograft into patients, twice overall at weekly intervals (D0 and D7).

The **cell therapy was well tolerated**, without adverse effects, especially during the 14 week study period. **Clinical response was observed in 3 out of 9 patients, and healing of colonic lesions in 2 out of 9 patients.**

This promising major study **shows good tolerance and feasibility of autologous cell therapy in Crohn's disease.**

**For the first time, it has been clearly demonstrated that mesenchymal stromal cells derived from the bone marrow of patients with Crohn's disease have the same morphological and functional properties as those taken from healthy donors.** This discovery has vital consequences: it shows that the disease does not affect these cells in bone marrow, and therefore justifies the potential for carrying out autografts.

The therapeutic effects of these cells during Crohn's disease, however, remains to be evaluated. This study cannot answer this question, because its aims were to assess the feasibility and safety of cell therapy. Nevertheless **the results are encouraging, since 30% of patients with**

chronic treatment-resistant Crohn's disease are now experiencing a conventional clinical improvement of their disease and 2 out of 9 colonic lesions have healed. Furthermore, these stromal mesenchymal cells retain their ability to multiply despite the immunosuppressive treatments used during Crohn's disease (azathioprine, methotrexate, anti-TNF) and even have a synergistic anti-inflammatory effect on them. This is therefore **a first encouraging step towards the use of cell therapy in Crohn's disease**. Other results from this DigestScience funded program are expected shortly. In early March in Dublin at the European Congress, Daniel Hommes' group gave a presentation on inflammatory intestinal disease, **with a focus on "preparing" these Mesenchymal stromal cells by treating them with IFN prior to reinjection in order to increase their capacity and therapy.**

## 2010/2011: STUDY OF INTERACTIONS BETWEEN BACTERIA AND BACTERIOPHAGES AROUND THE INTESTINAL FLORA

*The European Scientific Council of the DigestScience Foundation launched this new tender worth €500,000 EUR in October 2010. The project selected was that of an **international team**, which won thanks to its convincing originality, thanks also to the quality and scientific expertise of the different teams involved, and because of its therapeutic, diagnostic and prophylactic market potentials. This selection places the DigestScience Foundation at the forefront of scientific innovation.*

**AN INNOVATIVE RESEARCH PROJECT LEADING TO MANY APPLICATIONS, WHOSE INITIAL RESULTS WILL BE DUE IN EARLY 2012.**



**With this initiative, DigestScience is supporting a major project concerning the understanding and the role of bacteriophages in the intestinal flora.**

**Pierre Desreumeaux,**  
Président de la Fondation  
DigestScience

Bacteriophages and their application in anti-bacterial treatment were discovered more than a century ago. Though they were quickly "discarded" in favour of antibiotics, their importance remains vital not only because of the increasing problems with resistance to antibiotics, but also because of their precision when targeting a specific pathogen, thus respecting the flora balance.

Bacteriophages are viruses exclusively directed against bacteria. Being the most numerous biological entity ( $10^{31}$ )

on the planet, these phages play a vital role in the microbial balance.

**At the digestive level, these interactions are so far unknown.**

With this initiative, DigestScience is supporting a major project concerning the understanding and the role of bacteriophages in the intestinal flora.

## THE WINNING TEAM, FOUR WORLD EXPERTS IN SYNERGY:

**This research will be carried out by 4 internationally renowned teams, under the leadership of Laurent Debarbieux, from the Pasteur Institute of Paris.**

## LEARN MORE

### DIGESTSCIENCE FOUNDATION

DigestScience, chaired by Professor Pierre Desreumaux, was founded by scientists and doctors, is supported by large food processing and pharmacy companies, **and is the first recognised public research foundation in France dedicated to digestive diseases and nutrition.** It is located at the Eurasanté Health Park in Lille.

Supported by patients' associations, DigestScience directly finances programmes from the world's most innovative research in order to improve the health of patients with digestive diseases.

Diseases covered by DigestScience include Inflammatory Bowel Disease (IBD), celiac disease and irritable bowel syndrome. They are also concerned with nutrition and its effects on our health.

### CHRONIC INTESTINAL INFLAMMATORY DISEASES

**Chronic Inflammatory Bowel Diseases include Crohn's disease and ulcerative colitis.** These diseases, whose cause is poorly understood, result from an abnormal immune response of the intestine to the components of the bacterial flora in genetically predisposed individuals. They affect approximately 200,000 people in France.

**5 000 to 6 000 new cases are detected annually, of which over 10% are children.**

The signs of the disease begin mostly **between 20 and 40 years of age.** Despite their frequency, they remain largely poorly understood, and even taboo.

With often embarrassing or shameful symptoms (regular diarrhoea, difficulty in controlling one's bowel movements, abdominal pain etc.), **these chronic diseases disrupt and impede our school, work, family and love lives.**

The treatments which are currently available can improve the quality life of the majority of patients, **but they cannot cure the disease.**

### PRESS CONTACTS:

**DIGESTSCIENCE FOUNDATION,**  
Dr Bernadette Lemaire, Director  
Stéphanie Lagny, Assistant  
Tel. : +33 3 20 96 81 26  
Fax : +33 3 20 96 86 62  
contact@digestscience.com  
www.digestscience.com

### VIVACTIS PUBLIC RELATIONS

Houney Touré Valogne,  
and Brigitte Barron  
Tel. : +33 1 46 67 63 44  
Fax : +33 1 46 67 63 45  
h.toure-valogne@vivactis-  
publicrelations.fr  
www.vivactis-publicrelations.fr



# DigestScience

Digestive tract diseases and nutrition  
research Foundation