

UMR_S 1071 - Microbes, Intestine, Inflammation and Host Susceptibility (M2ISH)

OTHER SUPERVISORY BODIES

INSERM
Université Clermont Auvergne & associés

ÉTABLISSEMENTS ASSOCIÉS

INRAE

UNIT MANAGER

Nicolas BARNICH

LOCATION

Region : Auvergne-Rhône-Alpes (Clermont-Ferrand)

University site : Université Clermont Auvergne

Address :

Facultés de Médecine et de Pharmacie - BP 38 - 28, Place Henri Dunant - 63001 CLERMONT-FERRAND

There is an ongoing dialogue in the digestive tract between microbiota and the host. Any imbalance in this symbiosis leads to many diseases, such as chronic inflammatory bowel diseases, colorectal cancer, obesity, metabolic syndrome. For the last ten years, the research unit "Microbes, Intestine, Inflammation and Host Susceptibility", has been studying the relationship between intestinal microbiota and the host, particularly the involvement of pathogenic *Escherichia coli* in chronic inflammatory bowel diseases, focusing on Crohn's disease and the role of enterohemorrhagic *E. coli* involved in acute diarrhea and hemolytic uremic syndrome. This research unit is pioneer in demonstrating that the ileal mucosa of patients with Crohn's disease was abnormally colonized by pathogenic adherent-invasive *Escherichia coli* due to genetic susceptibility of Crohn's disease patients with increased expression of intestinal receptor allowing *E. coli* colonization and/or with defects in autophagy, a cellular process allowing host cells to eliminate any intracellular pathogens. In addition, due to the strong link between chronic inflammation and cancer, this research unit also studies the link between modifications of the intestinal microbiota and colorectal cancer.

This unit is currently developing three areas of research:

- exploration of the virulence of *Escherichia coli* responsible for chronic inflammatory bowel diseases and colorectal cancer,
- analysis of the host susceptibility to develop Crohn's disease or colorectal cancer,
- design of new specific therapies.

Unit website :

<http://www.uca.fr/recherche/structures-de-recherche/laboratoires/microbes-intestin-inflammation-et-susceptibilite-de-l-hote-1070.kjsp>

Key figures :

Total staff: 40

DOCTORAL SCHOOL(S)

SVSAE

DS 65 - Life sciences, health, agronomy, environment

Website : <http://edsvs.univ-bpclermont.fr>

Co-accredited institutions : Université Blaise Pascal (Clermont-Ferrand), Université d'Auvergne

Head : Monique ALRIC

