



Sarah O'Flaherty



Senior Research Scientist
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Title: Applications and Functional Genomics of Probiotic Bacteria

Research emphasis:

Dr O'Flaherty's research focuses on functional genomics of probiotics, probiotic-host interactions, and is the lead scientist for the vaccine program which focuses on mucosal vaccine delivery systems using lactic acid bacteria. Her research also involves methods to improve on existing genetic systems and to identify new antigen and therapeutic targets for probiotic delivery.

Applications:

- Lactic acid bacteria (LAB) as vaccine delivery systems
- Functional genomics
- LAB-host interactions
- Mouse experiments with LAB

Research Strengths:

- Probiotics
- Molecular Microbiology
- Cell Culture
- Phage biology

Selected Publications :

O'Flaherty, S. and Klaenhammer, T.R. Multivalent chromosomal expression of the *Clostridium botulinum* serotype A neurotoxin heavy chain antigen and *Bacillus anthracis* protective antigen in *Lactobacillus acidophilus*. Applied and Environmental Microbiology. In press. (2016)

Celebioglu, H.U., Ejby, M., Majumder, A., Købler, C., Goh, Y.G., Thorsen, K., Schmidt, B., **O'Flaherty, S.**, Hachem, A.B., Lahtinen, S.J., Jacobsen, S., Klaenhammer, T.R., Brix, S., Mølhave, K. and Svensson, B.,. Differential proteome and cellular adhesion analyses of the probiotic bacterium *Lactobacillus acidophilus* NCFM grown on raffinose—an emerging prebiotic. Proteomics (2016) 16 (9), 1361-1375

Call E., Goh, Y. J., Selle, K. Klaenhammer, T.R. and **O'Flaherty, S.** Sortase-deficient lactobacilli: effect on immunomodulation and gut retention. Microbiology. 161(2), 311-21 (2015)

Sanozky-Dawes, R., Selle, K., **O'Flaherty, S.** Klaenhammer, T.R. and Barrangou, R. Occurrence and activity of a type II CRISPR-Cas system in *Lactobacillus gasseri*. Microbiology 161 (9), 1752-1761 (2015)