Jacqueline BUTTERWORTH

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Nationality: British
Date of Birth: 30/12/1984

Education

2003-2007 **BSc Biochemistry with French, University of Manchester, England** (class 2.1); **Equivalent of French Research Master 2**

3rd year: Molecular Biology of Cancer, Glycobiology, Biochemical Basis of Disease, Structure and Function of Proteins, French Language, French Argumentative Strategies and Final Year Research Project (see below)

2nd year: Biochemistry Research Science Module (83), Chemistry of Biomolecules (80), Molecular and Cellular Biology Learning Skills Module (65), Biophysics and Ligand Interactions of Macromolecules (65), Metabolism and Metabolic Control (63), Molecular Cell Biology (63), Gene Expression (53), French Language (55), Translation Studies (44) and Female Voices French Literature (59).

1st year: Inorganic/Physical Chemistry (87), Biochemistry (79), Kinetics and Thermodynamics (79), Tutorial (76), From Molecules to Cells (74), Molecular Genetics (73), Study Skills (68), Organic Chemistry (64), French Language (61), Biomathematics (59) and French Culture and Society (58)

2001-2003 **Wath Comprehensive School, Rotherham, England**
A levels: Biology (A), Chemistry (A), French (A)

1996-2001 **Old Hall Comprehensive School, Rotherham, England**
GCSEs: Dual Science (A*A*), French (A*), Mathematics (A), History (A), Art (A), Technology (A), English Language (A), English Literature (B)

Research Experience

Sept 2005 - Sept 2006 **Institut de Pharmacologie et de Biologie Structurale (IPBS), Université Paul Sabatier, Toulouse, France**

A one year ERASMUS exchange placement within Pr Girard's research laboratory, "Vascular Biology: Endothelial Cells, Inflammation and Cancer". My research project, supervised by Pr Bouche and Stéphane Roga (in collaboration with **Sanofi-Aventis**), consisted of production and purification of a double tagged recombinant FGF-2 protein for further identification of FGF-2-nuclear associated proteins by means of isolation by immunoprecipitation, followed by proteomic analysis.

Alongside my major project I worked on a novel family of nuclear proteins discovered in 2003, THAPs (Thanatos Associated Proteins) which are involved in cell proliferation and apoptosis. I localised THAP1 in a nuclear extract by immunoprecipitaton using anti-THAP1 NH_2.

Techniques: Recombinant Protein Expression and Purification (Heparin-Sepharose Chromatography), SDS-PAGE, Western Blot, Immunoprecipitation, Cell Culture, Indirect Immunofluorescence, observation of *in vivo* imaging of lymph node metastasis.

Sept 2006 - April 2007 **Faculty of Life sciences, The Michael Smith Building, University of Manchester, Engalnd**

Final year research project (9 months) supervised by Pr Mike Dixon consisting of mutation screening of *GJA1* from 4 human Oculodentodigital Syndrome (ODD) candidates. Gja1 encodes Connexin 43 gap junction protein. Two mutations were idenfied, one a novel amino-terminal mutation not previuosly reported in litterature.

Techniques: PCR, Agarose Gel Electrophoresis and Gel Extraction, direct dideoxy-chain termination and dye primer chemistry DNA sequencing, Restriction Enzyme Digest

Sept 2007 – *Present* (end date Sept 2010) **Science PhD, Marie Curie Research Training Network "MyEuropia", INSERM Unité 563, Toulouse, France**

1. **High myopia candidate gene search**: A whole genome association analysis on an unrelated case-control high myopic European population (French/Spanish/Portuguese) using Affymetrix array 6.0 SNP genotyping

   Techniques: Human subject recruitment organisation, DNA extraction and Purification, Genotyping, Data handling

2. **Corneal wound healing**: Expression of stem cell markers in a mouse cornea stromal cell subpopulation

   Techniques: Animal Experimentation, Histology, Immunohistochemistry, *in situ* hybridisation

Publication

A. Fenwick, R.J. Richardson, **J. Butterworth**, M.J. Barron, and M.J. Dixon. (2008) Novel Mutations in *GJA1* Cause Oculodentodigital syndrome**.** *J Dent Res.* 87: 1021-1026

Conferences/Posters

- Frequent MyEuropia project progress presentations
- London St Thomas Hospital Twin Unit Sept 2008: PhD subject presentation
- Marie Curie Careers Conference July 2008 Barcelona: Poster Presentation: "High Myopia Gene Hunt"
- Multicentric French public hospital collaboration for high myope subject recruitment: Project and recruitment organisation presentations

Teaching and Administration Experience

- Supervison of Master 1 student 2008
- Member of MyEuropia Projet Steering Committe

Languages

Fluent in English and French: spoken, written and read