

Sylvain JULIEN Ph.D.

Personal details

Date of Birth: 06-08-1974
Place of Birth: Harfleur, France
Nationality: French
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EDUCATION AND DEGREES

- 2004 *Université Lille 1 - France*
Ph.D. Life and Health Sciences. *Summa cum laude*
Title: Incidence of Sialyl-Tn antigen on breast cancer cell line development.
Supervisors: Pr. Philippe DELANNOY and Pr. Xuefen LE BOURHIS.
- 2000 **M.Sc.** Cellular biology and physiology, option genetic. *With honours*
- 1999 **B.Sc.** Cellular biology and physiology, option physiology.
- 1995 *Lycée Baudimont-St Charles – Arras France*
Technical B.Sc. Biochemistry.

PROFESSIONAL EXPERIENCE

- Current **Chercheur en Biologie – Senior Research Associate**
INSERM, Lille, France
Cell Plasticity and Cancer U908 INSEM/Université Lille 1
- 2011-2014 **Chercheur en Biologie – Senior Research Associate**
CNRS, Lille, France
Unité de Glycobiologie Structurale et fonctionnelle, UMR CNRS/Université Lille 1 n°8576
- 2005-2011 **Senior Research Associate (2007-2011) / Research Associate (2005-2007)**
Kings' College London, Londres, UK
Medicine School, Cancer Studies division, Breast Cancer Biology team
- 2001-2004 **Moniteur de l'Enseignement Supérieur – Ph.D. Studentship and trainee lecturer**
Université Lille 1, Villeneuve d'Ascq France
UMR CNRS/Université Lille 1 n°8576
- 1995-1997 **Scientific Officer**
Etablissement Français du Sang, Lille – blood transfusion center

CONSULTING

- 2013 **SIAMAB Therapeutics Inc. (U.S.A.)**
Immunotherapy and glycan antigen
- 2011 **Sirona Biochem Corp. (Canada)**
Glycan antigen for vaccine design

TEACHING

2009-10 King's College London UK

- Cancer Biology tutorials

2001-04 Université de Lille 1

- Embryology (B.Sc. level): gametogenesis (insects, invertebrates, amphibians and mammals) and embryological development (amphibians, birds and mammals).
- Developmental biology (M.Sc. level): embryology (blastula division, gastrulation, neurulation in fishes, amphibians, birds, mammals) and organogenesis (eye and heart formation in amphibians and mammals).
- Cellular Biology (B.Sc. level): Amphibian gonad differentiation (histologic study), amphibian oocytes maturation (IVF), immunohistochemistry (PCNA) and cellular differentiation (NGF treatment and neurite formation).
- Biochemistry (B.Sc. level): Basic techniques of characterisation and quantification of proteins, lipids and glycans (colorimetric assays, thin layer chromatography, western blot...)

TECHNICAL SKILLS

Experimental techniques:

- **Cell Biology:** cell-culture including in vitro assays (growth, migration, invasion, aggregation), transient and stable transfection, flow cytometry, immunocytochemistry. Bases in breast primoculture and confocal microscopy.
- **Molecular Biology:** RNA extraction, quantitative RT-PCR, cDNA cloning, siRNA, shRNA.
- **Immunological techniques:** histochemistry, cytochemistry, flow cytometry, ELISA (protocol set up)
- **Biochemistry:** Western blot, enzymatic assays, chromatography (affinity and basic HPLC), zymography, Biacore.
- **Animal experimentation:** xenograft, immunisation, in vivo imaging.
holder of a training certificate delivered by King's College London Biological service unit in 2010, and a French training certificate validated in September 2012.

Software:

Office pack, SPSS, Graphpad PRISM, Studio Visualizer Accelerlys, Serial Cloner.

LABORATORY MANAGEMENT AND ANIMATION

- Staff management: Master students (6), Ph.D. students (6), Scientific Officer (2).
- Purchase negotiation for bulk consumables and lab-equipment (Thermocycler, transilluminator, microscope, cell counter).
- Initiation and coordination of monthly seminars of the department Research Oncology of King's College London (2009-2010).
- Organisation of the out-of-the lab seminar 'Breast Cancer Research Retreat' (May 2010) for the department.
- Re-organisation of the working space of the laboratory in order to rationalise the use of the space and material resources as well as to comply with amended health and safety regulations. (2009)

FUNDINGS

- Senior Post-doctoral Fellowship – Conseil regional du nord (Regional authorities), 2014, **134,000€**
Breast cancer Stem cell Glycome
- E-zyvec innovation start-up project – various grants and prizes in 2014 for a total of **170,000€**
(SATT Nord de France – TTO; Eurasanté – Bioincubator; BPI France – Public investment Bank)
- Privately funded research grant – Siamab Therapeutics, 2014, **57,000€**
- Research grant - GEFLUC – 2013, **10,000€**
GAGs/selectins interaction in breast cancer haematogeneous metastasis
- PICS international collaborative grant – CNRS – 2013-2015, **20,000€**
GLYCOMET project with King's College London : glycans driving organotropism of breast cancer metastasis
- Senior Post-doctoral Fellowship – La Ligue contre le cancer (Doubs), 2011-2013, **155,000€**
Role of sialyl-Lewis x antigen in breast cancer metastasis

JOURNAL REVIEWER ACTIVITY

- 2013 Tumor Biology
Molecular oncology
Cancer Immunology Immunotherapy
Plos One
Biochimie
- 2012 Journal of Biological chemistry
- 2011 Glycobiology
- 2009 Carbohydrate Research

SCIENTIFIC PRODUCTION

Listed below are the scientific publication, sorted by research articles, reviews/book articles, oral communications and poster communications. References in grey are major contribution (first or last (co)-author). Of note, one **patent** (two inventors) is also to be filled during early 2015. IF : 5years Impact factor 2013.

Research Articles

Brain metastases of breast cancer: Selection of a relevant in vitro BBB model exhibits BBB properties.

Drolez A, Vandehaute E, **Julien S**, Gosselet F, Delannoy P, Dehouck MP, Cecchelli R, Mysiorek C.

In preparation

Accumulation of GD1 α ganglioside in MDA-MB-231 breast cancer cells expressing ST6GalNAc V

Vandermeersch S, Vanbeselaere J, Delannoy CP, Drolez A, Mysiorek C, Guérardel Y, Delannoy P, **Julien S**.

Submitted to **Biomolecules** Jan 2015

1 *Macrophage polarization alters the expression and sulfation pattern of glycosaminoglycans.*

Martinez P, Denys A, Delos M, Sikora AS, Carpentier M, **Julien S**, Pestel J, Allain F.

2014 **Glycobiology**

IF : 3.96

2 *NGF and proNGF simultaneously promote symmetric self-renewal, quiescence and EMT to enlarge the breast cancer stem cell compartment.*

Tomellini E, Touil Y, Lagadec C, **Julien S**, Ostyn P, Ziental-Gelus N, Meignan S, Lengrand J, Adriaenssens E, Polakowska R, Le Bourhis X.

2014 **Stem Cells**

IF : 8.37

3 *Over-sulfated glycosaminoglycans are alternative selectin ligands: insights into molecular interactions and possible role in breast cancer metastasis.*

Martinez P, Vergoten G, Colomb F, Carpentier M, Allain F, Delannoy P, **Julien S**.

2013 **Clinical and experimental Metastasis**

IF : 4,29

4 *Estradiol represses the expression of the GD3 synthase gene, ST8SIA1, in breast cancer.*

Bobowski M, Steenackers A, Colomb F, **Julien S**, Delannoy P.

2013 **PLoS One**

IF : 4,24

5	<i>Cyclooxygenase-2 induces the expression of the alpha 2,3 sialyltransferase-3 (ST3Gal-I) in breast cancer.</i> Sproviero D, Julien S , Burford B, Taylor-Papadimitriou J, Burchell JM. 2012 Journal of Biological Chemistry Nov 13.	IF : 5,02
6	<i>Selectin ligand sialyl-Lewis x antigen drives metastasis of hormone-dependent breast cancers.</i> Julien S , Ivetic A, Grigoriadis A, Qize D, Burford B, Sproviero D, Picco G, Gillett C, Papp SL, Schaffer L, Tutt A, Taylor-Papadimitriou J, Pinder SE, Burchell JM. 2011 Cancer Research Dec 15;71(24):7683-93.	IF : 8,58
7	<i>Autoantibodies to aberrantly glycosylated MUC1 in early stage breast cancer are associated with a better prognosis.</i> Blixt O, Bueti D, Burford B, Allen D, Julien S , Hollingsworth M, Gammerman A, Fentiman I, Taylor-Papadimitriou J, Burchell JM. 2011 Breast Cancer Research . Mar 8;13(2):R25.	IF : 6,26
8	<i>GD3 synthase expression enhanced proliferation and tumor growth of MDA-MB-231 breast cancer cells through c-Met activation.</i> Cazet A, Lefebvre J, Adriaenssens E, Julien S , Bobowski M, Grigoriadis A, Tutt A, Tulasne D, Le Bourhis X, Delannoy P. 2010 Molecular Cancer Research , 8 (11), pp. 1526-1535.	IF : 4,94
9	<i>Over-expression of ST3Gal-I promotes mammary tumourigenesis.</i> Picco G, Julien S , Brockhausen I, Beatson R, Antonopoulos A, Haslam S, Mandel U, Dell A, Pinder S, Taylor-Papadimitriou J, Burchell J. 2010 Glycobiology , 20 (10) pp. 1241-1250.	IF : 3.96
10	<i>Sialyl-Tn vaccine induces antibody-mediated tumour protection in a relevant murine model.</i> Julien S , Picco G, Sewell R, Vercoutter-Edouart A-S, Tarp M, Miles D, Clausen H, Taylor-Papadimitriou J, Burchell J. 2009 British Journal of Cancer , 100 (11), pp. 1746-1754.	IF: 5.21
11	<i>Retargeting of human T cells to tumor-associated MUC1: The evolution of a chimeric antigen receptor.</i> Wilkie S, Picco G, Foster J, Davies D, Julien S , Cooper L, Arif S, Mather S, Taylor-Papadimitriou J, Burchell J, Maher J. 2008 Journal of Immunology , 180 (7), pp. 4901-4909.	IF: 5,67
12	<i>Sialyl-Lewisx on P-selectin glycoprotein ligand-1 is regulated during differentiation and maturation of dendritic cells: A mechanism involving the glycosyltransferases C2GnT1 and ST3Gal I.</i> Julien S , Grimshaw M, Sutton-Smith M, Coleman J, Morris H, Dell A, Taylor-Papadimitriou J, Burchell J. 2007 Journal of Immunology , 179 (9), pp. 5701-5710.	IF : 5,67

13	<p><i>Sialylated core 1 O-glycans influence the sorting of Pmel17/gp100 and determine its capacity to form fibrils.</i></p> <p>Valencia J, Rouzaud F, Julien S, Chen K, Passeron T, Yamaguchi Y, Abu-Asab M, Tsokos M, Costin G, Yamaguchi H, Miller Jenkins L, Nagashima K, Appella E, Hearing V.</p> <p>2007 Journal of Biological Chemistry, 282 (15), pp. 11266-11280. IF : 5,02</p>
14	<p><i>ST6GalNAc I expression in MDA-MB-231 breast cancer cells greatly modifies their O-glycosylation pattern and enhances their tumourigenicity.</i></p> <p>Julien S, Adriaenssens E, Ottenberg K, Furlan A, Courtand G, Vercoutter-Edouart A-S, Hanisch F-G, Delannoy P, Le Bourhis X.</p> <p>2006 Glycobiology, 16 (1), pp. 54-64. IF : 3.96</p>
15	<p>Teinturier-Lelièvre M, Julien S, Juliant S, Guerardel Y, Duonor-Cérutti M, Delannoy P, Harduin-Lepers A.</p> <p><i>Molecular cloning and expression of a human hST8Sia VI (α2,8- sialyltransferase) responsible for the synthesis of the diSia motif on O-glycosylproteins.</i></p> <p>2005 Biochemical Journal, 392 (3), pp. 665-674. IF : 5.02</p>
16	<p><i>Stable expression of sialyl-Tn antigen in T47-D cells induces a decrease of cell adhesion and an increase of cell migration.</i></p> <p>Julien S, Lagadec C, Krzewinski-Recchi M-A, Courtand G, Le Bourhis X, Delannoy P.</p> <p>2005 Breast Cancer Research and Treatment, 90 (1), pp. 77-84. IF : 4.47</p>
17	<p><i>Identification and functional expression of a second human β-galactoside α2,6-sialyltransferase, ST6Gal II.</i></p> <p>Krzewinski-Recchi M-A, Julien S, Juliant S, Teinturier-Lelièvre M, Samyn-Petit B, Montiel M-D, Mir A-M, Cerutti M, Harduin-Lepers A, Delannoy P.</p> <p>2003 European Journal of Biochemistry (FEBS Journal), 270 (5), pp. 950-961. IF : 3.60</p>
18	<p><i>Expression of Sialyl-Tn antigen in breast cancer cells transfected with the human CMP-Neu5Ac: GalNAc α2,6-sialyltransferase (ST6GalNAc I) cDNA.</i></p> <p>Julien S, Krzewinski-Recchi M-A, Harduin-Lepers A, Gouyer V, Huet G, Le Bourhis X, Delannoy P.</p> <p>2001 Glycoconjugate Journal, 18 (11-12), pp. 883-893. IF : 2.09</p>

Reviews and book chapters

<p><i>Gangliosides in Breast Cancer: New Perspectives</i></p> <p>S. Groux-Degroote, Y. Guérardel, S. Julien and P. Delannoy</p> <p>Submitted to Biochemistry (Moscow) Jan 2015</p>		
1	<p><i>Sialic Acid and Cancer</i></p> <p>Julien S, Delannoy P</p> <p>2015 in Glycoscience: Biology and Medicine, SpringerJapan Pages 1419-1424</p>	Book chapter
2	<p><i>Mucins in metastasis</i></p> <p>Julien S.</p> <p>2013 in Mucins and Cancer Future Medicine Ltd; Pages 94-107</p>	Book chapter
3	<p><i>How Do Gangliosides Regulate RTKs Signaling?</i></p> <p>Julien S, Bobowski M, Steenackers A, Le Bourhis X and Delannoy P.</p> <p>2013 Cells; 2(4), 751-767</p>	

4	<i>Sialyl-Tn in Cancer: (How) Did We Miss the Target?</i> Julien S , Videira PA, Delannoy P. 2012 Biomolecules. ; 2(4):435-466	
5	<i>Consequences of the expression of sialylated antigens in breast cancer.</i> Cazet A, Julien S , Bobowski M, Krzewinski-Recchi M-A, Harduin-Lepers A, Groux-Degroote S, Delannoy P. 2010 Carbohydrate Research , Jul 2;345(10):1377-83.	IF : 2,18
6	<i>Tumour-associated carbohydrate antigens in breast cancer.</i> Cazet A, Julien S , Bobowski M, Burchell J, Delannoy P. 2010 Breast Cancer Research . Jun 8;12(3):204.	IF : 6,26
7	<i>Characterizing the glycome of the mammalian immune system</i> Haslam S, Julien S , Burchell J, Monk C, Ceroni A, Garden O, Dell A. 2008 Immunology and Cell Biology , 86 (7), pp. 564-573.	IF : 3,81
8	Julien S , and Delannoy P. <i>Sialyl-Tn antigen in cancer: from diagnosis to therapy.</i> 2003 In Recent research developments in cancer pp. 185-199. S. G. Pandalai, ed. Transworld Reserach Network, kerala.	Book chapter
9	<i>The human sialyltransferase family</i> Harduin-Lepers A, Vallejo-Ruiz V, Krzewinski-Recchi MA, Samyn-Petit B, Julien S , Delannoy P. 2001 Biochimie Aug;83(8):727-37.	IF : 3,56

Oral communications (invited in grey)

Sialyl-Tn and cancers - 15 years on 11th Jenner glycobiology and medicine symposium Paris, France, 20-21 April 2015,
Function of ligands of selectins in breast cancer metastasis. 24èmes Journées du Groupe Français des Glycosciences Domaine du ValJoly, France, May 2012
Organotropism of breast cancer haematogenous metastasis: are selectin ligands the key factors? 10th Jenner Glycobiology and Medicine Symposium Den Haag, Pays Bas, April 2012
Is Theratope® a good vaccine to treat breast cancer? Journées Scientifiques de l'Université de Nantes, colloque 5: Glycosciences et Santé Nantes, France, June 2011
Heterogeneous expression of selectins' ligands in breast cancer: is there more than one route for haematogeneous metastasis? 11th International Workshop on Carcinoma-associated Mucins Cambridge, UK, July 2011
Is Theratope® a good vaccine to treat breast cancer? 3rd Korea-France Collaborative Symposium Lille, France, February 2009

Regulation of O-glycosylation during DC differentiation and maturation: possible function in cell-trafficking.

18th Joint Glycobiology Meeting,

Lille, France, November **2007**.

Regulation of O-glycosylation during DC differentiation and maturation: possible function in cell-trafficking.

8th Jenner Glycobiology and Medicine Symposium

Dublin, Ireland, October **2007**.

Regulation of O-glycosylation during DC differentiation and maturation: possible function in cell-trafficking.

9th International Workshop on Carcinoma-associated Mucins

Cambridge, UK, July **2007**

Expression of sialyl-Tn antigen in breast cancer cells transfected with the human ST6GalNAc I cDNA, is associated with phenotypical changes

12th European Carbohydrate Symposium

Grenoble, France, **2003**

Expression of sialyl-Tn antigen in breast cancer cells transfected with the human ST6GalNAc I cDNA.

13th Joint Glycobiology Meeting

Münster/Raesfeld Germany, 21-23 November **2002**

Posters (international meetings only)

Role of selectins in breast cancer metastasis.

Sylvain Julien, Aleksandar Ivetic, Joy Burchell.

21st Joint Glycobiology Meeting, Ghent, Belgium, 7-9 Novembre **2010**.

ST3Gal I over expression increases spontaneous tumorigenicity in murin mammary gland.

Gianfanco Picco, **Sylvain Julien**, Inke Brockhausen, Richard Beatson, Aristotelis Antonopoulos, Ann Dell, Sarah Pinder, Joyce Taylor-Papadimitriou & Joy Burchell.

20th Joint Glycobiology Meeting, Cologne, Germany, 8-10 Novembre **2009**

Sialyl-Tn vaccine induces tumour protection mediated by polyclonal antibodies in a relevant murine model.

Sylvain Julien, Gianfranco Picco, Robert Sewell, Anne-Sophie Vercoutter-Edouart, Mads Tarp, Henrik Clausen, Joyce Taylor-Papadimitriou & Joy Burchell.

10th international Workshop on Carcinoma Associated Mucins, Cambridge, UK, 19-23 July **2009**.

Sialyl-Tn vaccine induces tumour protection mediated by polyclonal antibodies in a relevant murine model.

Sylvain Julien, Gianfranco Picco, Robert Sewell, Anne-Sophie Vercoutter-Edouart, Mads Tarp, Henrik Clausen, Joyce Taylor-Papadimitriou & Joy Burchell.

18th Joint Glycobiology Meeting, Wageningen, Netherlands, 30 Novembre-2 Décembre **2008**.

Changes in O-Linked glycosylation upon dendritic cell maturation.

Sylvain Julien, Matthew Grimshaw, Mark Sutton-Smith, Ann Dell, Joyce Taylor-Papadimitriou & Joy Burchell.

17th Joint Glycobiology Meeting. Bruges, Belgium 5-7 Novembre **2006**

Sialyl-Tn expression enhances the in vivo tumor growth of MDA-MB-231 breast cancer cells.

Sylvain Julien, Eric Adriaenssens, Xuefen Le-Bourhis & Philippe Delannoy.

8th international Workshop on Carcinoma Associated Mucins, Cambridge, UK, 9-13 July **2005**.

Sialyl-Tn expression enhances the in vivo tumor growth of MDA-MB-231 breast cancer cells.

Sylvain Julien, Eric Adriaenssens, Xuefen Le-Bourhis & Philippe Delannoy.

15th Joint Glycobiology Meeting, 28-30 Novembre, **2004**.

Sialyl-Tn expression enhances the in vivo tumor growth of MDA-MB-231 breast cancer cells.

Sylvain Julien, Eric Adriaenssens, Xuefen Le-Bourhis & Philippe Delannoy.

GlycoT2004, 4th International Symposium on Glycosyltransferases, Le Touquet, France, 2-6 Novembre, **2004**.

ST6GalNAc I induces the expression of sialyl-Tn antigen in breast cancer cells and is associated with phenotypical changes.

Sylvain Julien, Marie-Ange Krzewinski-Recchi, Xuefen Le Bourhis and Philippe Delannoy.

14th Joint Glycobiology Meeting, Lille France, 20-22 Novembre, **2003**.