

# ImageStream® System

## Selected Scientific and Technical Publications



**Simultaneous assessment of autophagy and apoptosis using multispectral imaging cytometry.** — de la Calle C. et.al.  
*Autophagy*. 2011 Sep 1;7(9):1045-51

**Hemophagocytosis causes a consumptive anemia of inflammation.**  
— Zoller, E. et.al.  
*J Exp Med*. 2011 Jun 6;208(6):1203-14.

**Exosomes Containing Glycoprotein 350 Released by EBV-Transformed B Cells Selectively Target B Cells through CD21 and Block EBV Infection In Vitro.** — Vallhov, H. et.al.  
*J Immunology*. 2011 Jan 1 186(1):73-82.

**Statistical analysis of nanoparticle dosing in a dynamic cellular system.** — Summers, H. D. et.al.  
*Nat Nanotechnol*. 2011 Mar;6(3):170-4.

**Exosomes containing glycoprotein 350 released by EBV-transformed B cells selectively target B cells through CD21 and block EBV infection in vitro.** — Southcombe, J. et.al.  
*PLoS One*. 2011 May 25;6(5):e20245.

**Okadaic acid and dinophsin toxin 2 have differential toxicological effects in hepatic cell lines inducing cell cycle arrest, at G0/G1 or G2/M with aberrant mitosis depending on the cell line.** — Rubiolo, J. A. et.al.  
*Arch Toxicol*. 2011 Apr 22. [Epub ahead of print]

**A transfer function approach to measuring cell inheritance.** — Rees, P. et.al.  
*BMC Syst Biol*. 2011 Feb 22;5:31.

**ImageStream cytometry extends the analysis of phagocytosis and oxidative burst.** — Ploppa, A. et.al.  
*Scand J Clin Lab Invest*. 2011 Sep;71(5):362-9.

**Sublethal radiation injury uncovers a functional transition during erythroid maturation.** — Peslak, S. A. et.al.  
*Exp Hematol*. 2011 Apr;39(4):434-45.

**Both CD62 and CD162 antibodies prevent formation of CD36-dependent platelets, rosettes, and artefactual pseudoexpression of platelet markers on white blood cells: a study with ImageStream®.** — Ouk, C. et.al.  
*Cytometry A*. 2011 Jun;79(6):477-84. doi: 10.1002/cyto.a.21050.

**Rapamycin blocks production of KSHV/HHV8: insights into the anti-tumor activity of an immunosuppressant drug.** — Nichols, L. A. et.al.  
*PLoS One*. 2011 Jan 14;6(1):e14535.

**A transient definitive erythroid lineage with unique regulation of the {beta}-globin locus in the mammalian embryo.** — McGrath, K. E. et.al.  
*Blood*. 2011 Apr 28;117(17):4600-8.

**Quantifying nuclear p65 as a parameter for NF-kappaB activation: Correlation between ImageStream cytometry, microscopy, and Western blot.** — Maguire, O. et.al.  
*Cytometry A*. 2011 Jun;79(6):461-9. doi: 10.1002/cyto.a.21068.

**Innate Sensing of HIV-Infected Cells.** — Lepelley, A. et.al.  
*PLoS Pathog*. 2011 Feb;7(2):e1001284.

**Histamine regulates autoreactive T cell activation and adhesiveness in inflamed brain microcirculation.** — Lapilla, M. et.al.  
*J Leukoc Biol*. 2011 Feb;89(2): 259-67.

**Unexpected Role for Granzyme K in CD56bright NK Cell-Mediated Immunoregulation of Multiple Sclerosis.** — Jiang, W. et.al.  
*J Immunol*. 2011 Jul 15;187(2):781-90.

**Single cell force spectroscopy of T cells recognizing a myelin derived peptide on antigen presenting cells.** — Hoffmann, S. et.al.  
*Immunol Lett*. 2011 Apr 30;136(1):13-20.

**Visualisation and quantification of cytotoxicity mediated by antibodies using imaging flow cytometry.** — Helguera, G. et.al.  
*J Immunol Methods*. 2011 May 31;368(1-2):54-63.

**KSHV infects a subset of human tonsillar B cells, driving proliferation and plasmablast differentiation.** — Hassman, L. M. et.al.  
*J Clin Invest*. 2011 Feb 1;121(2):752-68. doi: 10.1172/JCI44185.

**PML protein analysis using imaging flow cytometry.** — Grimwade, L. et.al.  
*J Clin Pathol*. 2011 May;64(5):447-50.

**Heterogeneous sensitivity of human acute myeloid leukemia to  $\beta$ -catenin down-modulation.** — Gandillet, A. et.al.  
*Leukemia*. 2011 May;25(5):770-80.

**An imaging flow cytometric method for measuring cell division history and molecular symmetry during mitosis.** — Filby, A. et.al.  
*Cytometry A*. 2011 Jul;79(7):496-506. doi: 10.1002/cyto.a.21091.

**Targeting iNKT cells for the treatment of sickle cell disease.** — Field, J. J. et.al.  
*Clin Immunol*. 2011 Aug;140(2):177-83.

**MHC class II upregulation and colocalization with Fas in experimental models of immune-mediated bone marrow failure.** — Erie, A. et.al.  
*Exp Hematol*. 2011 Aug;39(8):837-49.

**Physical interactions between mast cells and eosinophils: a novel mechanism enhancing eosinophil survival in vitro.** — Elishmereni, M. et.al.  
*Allergy*. 2011 Mar;66(3):376-85. doi: 10.1111/j.1398-9995.2010.02494.x.

**Integrin-assisted drug delivery of nano-scaled polymer therapeutics bearing paclitaxel.** — Eldar-Boock, A. et.al.  
*Biomaterials*. 2011 May;32(15):3862-74.

**A role for the immediate early gene product c-fos in imprinting T cells with short-term memory for signal summation.** — Clark, C. et.al.  
*PLoS One*. 2011 Apr 28;6(4):e18916.

**North american porcine reproductive and respiratory syndrome viruses inhibit type I interferon production by plasmacytoid dendritic cells.** — Calzada-Nova, G. et.al.  
*J Virol*. 2011 Mar;85(6):2703-13.

**Autophagy is essential to suppress cell stress and to allow BCR-Abi-mediated leukemogenesis.** — Altman, B. J. et.al.  
*Oncogene*. 2011 Apr 21;30(16):1855-67.

**A robust, high-throughput assay to determine the phagocytic activity of clinical antibody samples.** — Ackerman, M. E. et.al.  
*J Immunol Methods.* 2011 Mar 7;366(1-2):8-19.

**miR-451 protects against erythroid oxidant stress by repressing 14-3-3(zeta).** — Yu, D. et.al.  
*Genes Dev.* 2010 Aug 1;24(15):1620-33.

**Uptake and Intracellular Fate of Disulfide-Bonded Polymer Hydrogel Capsules for Doxorubicin Delivery to Colorectal Cancer Cells.** — Yan, Y. et.al.  
*ACS Nano.* 2010 May 25;4(5):2928-36.

**Unique biological properties of catalytic domain directed human anti-CAIX antibodies discovered through phage-display technology.** — Xu, C. et.al.  
*PLoS One.* 2010 Mar 10;5(3):e9625.

**Cytometry in Cell Necrobiology Revisited. Recent Advances and New Vistas.** — Wlodkovic, D. et.al.  
*Cytometry A.* 2010 Jul;77(7):591-606.

**Mitochondrial translocation of oxidized cofilin induces caspase-independent necrotic-like programmed cell death of T cells.** — Wabnitz, G. H. et.al.  
*Cell Death Dis.* 2010 Jul 22;1(7):e58.

**Virally infected and matured human dendritic cells activate natural killer cells via cooperative activity of plasma membrane-bound TNF and IL-15.** — Vujanovic, L. et.al.  
*Blood.* 2010 Jul 29;116(4):575-83.

**Apoptosis is regulated by the VDAC1 N-terminal region and by VDAC oligomerization: release of cytochrome c, AIF and Smac/Diablo.** — Shoshan-Barmatz, V. et.al.  
*Biochim Biophys Acta.* 2010 June - July;1797(6-7):1281-1291.

**CCR9 mediates PI3K/AKT-dependent antiapoptotic signals in prostate cancer cells and inhibition of CCR9-CCL25 interaction enhances the cytotoxic effects of etoposide.** — Sharma, P. K. et.al.  
*Int J Cancer.* 2010 Nov 1;127(9):2020-30.

**C1q deficiency leads to the defective suppression of IFN-alpha in response to nucleoprotein containing immune complexes.** — Santer, D. M. et.al.  
*J Immunol.* 2010 Oct 15;185(8):4738-49.

**Conventional apoptosis assays using propidium iodide generate a significant number of false positives that prevent accurate assessment of cell death.** — Rieger, A. M. et.al.  
*J Immunol Methods.* 2010 Jun 30;358(1-2):81-92.

**Macrophage activation differentially modulates particle binding, phagocytosis and downstream antimicrobial mechanisms.** — Rieger, A. M. et.al.  
*Dev Comp Immunol.* 2010 Nov;34(11):1144-59.

**Peroxiredoxin 1 Stimulates Secretion of Proinflammatory Cytokines by Binding to TLR4.** — Riddell, J. R. et.al.  
*J Immunol.* 2010 Jan 15;184(2):1022-30.

**Prolonged Antigen Storage Endows Merocytic Dendritic Cells with Enhanced Capacity To Prime Anti-Tumor Responses in Tumor-Bearing Mice.** — Reboulet, R. A. et.al.  
*J Immunol.* 2010 Sep 15;185(6):3337-47.

**Human anti-HIV-neutralizing antibodies frequently target a conserved epitope essential for viral fitness.** — Pietzsch, J. et.al.  
*J Exp Med.* 2010 Aug 30;207(9):1995-2002.

**Cryptococcal Cell Morphology Affects Host Cell Interactions and Pathogenicity.** — Okagaki, L. H. et.al.  
*PLoS Pathog.* 2010 Jun 17; 6(6): e1000953.

**HIV-1 Nef inhibits ruffles, induces filopodia and modulates migration of infected lymphocytes.** — Nobile, C. et.al.

*J Virol.* 2010 Mar;84(5):2282-93.

**The Proapoptotic Function of Noxa in Human Leukemia Cells Is Regulated by the Kinase Cdk5 and by Glucose.** — Lowman, X. H. et.al.  
*Mol Cell.* 2010 Dec 10;40(5): 823-33.

**Novel anti-adipogenic activity produced by human fibroblasts.** — Lehmann, G. M. et.al.  
*Am J Physiol Cell Physiol.* 2010 Sep;299(3):C672-81.

**Merocytic Dendritic Cells Break T Cell Tolerance to b Cell Antigens in Nonobese Diabetic Mouse Diabetes.** — Katz, J. D. et.al.  
*J Immunol.* 2010 Aug 15;185(4):1999-2003.

**The Protein Tyrosine Phosphatase SHP-1 Modulates the Suppressive Activity of Regulatory T Cells.** — Iype, T. et.al.  
*J Immunol.* 2010 Nov 15;185(10):6115-27.

**Dendritic cells control T cell tonic signaling required for responsiveness to foreign antigen.** — Hochweller, K. et.al.  
*Proc Natl Acad Sci U S A.* 2010 Mar 30;107(13):5931-6.

**NF-E2-related factor 2 regulates the stress response to UVA-1-oxidized phospholipids in skin cells.** — Gruber, F. et.al.  
*FASEB J.* 2010 Jan;24(1):39-48.

**Regulation of Virulence of Entamoeba histolytica by the URE3-BP Transcription Factor.** — Gilchrist, C. A. et.al.  
*mBio.* 2010 May 18;1(1). pii: e00057-10.

**Gamma(c) deficiency precludes CD8+ T cell memory despite formation of potent T cell effectors.** — Decaluwe, H. et.al.  
*Proc Natl Acad Sci U S A.* 2010 May 18;107(20):9311-6.

**Impaired expression and function of toll-like receptor 7 in hepatitis C virus infection in human hepatoma cells.** — Chang, S. et.al.  
*Hepatology.* 2010 Jan;51(1):35-42.

**Aggregation of mononuclear and red blood cells through an {alpha}4{beta}1-Lu/basal cell adhesion molecule interaction in sickle cell disease.** — Chaar, V. et.al.  
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**Members of the Entamoeba histolytica transmembrane kinase family play non-redundant roles in growth and phagocytosis.** — Buss, S. N. et.al.  
*Int J Parasitol.* 2010 Jun;40(7):833-43.

**TGF-beta regulates T-cell neurokinin-1 receptor internalization and function.** — Beinborn, M. et.al.  
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**Characterization of the Murine SIRT3 Mitochondrial Localization Sequence and Comparison of Mitochondrial Enrichment and Deacetylase Activity of Long and Short SIRT3 Isoforms.** — Bao, J. et.al.  
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**Fluid shear stress promotes an endothelial-like phenotype during the early differentiation of embryonic stem cells.** — Ahsan, T. et.al.  
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**Evidence of mobilization of pluripotent stem cells into peripheral blood of patients with myocardial ischemia.** — Abdel-Latif, A. et.al.  
*Exp Hematol.* 2010 Dec;38(12):1131-1142.e1.

**Retinoic acid induces nuclear accumulation of Raf1 during differentiation of HL-60 cells.** — Smith, J. et.al.  
*Exp Cell Res.* 2009 Aug 1;315(13):2241-8.

**Clinical and biological significance of CXCR5 expressed by prostate cancer specimens and cell lines.** — Singh, S. et.al.  
*Int J Cancer.* 2009 Nov 15;125(10):2288-95.

**Identification of a dendritic cell receptor that couples sensing of necrosis to immunity.** — Sancho, D. et.al.  
*Nature*. 2009 Apr 16;458(7240):899-903.  
**Statins inhibit NK-cell cytotoxicity by interfering with LFA-1-mediated conjugate formation.** — Raemer, P. C. et.al.  
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**Differential Association of Programmed Death-1 and CD57 with Ex Vivo Survival of CD8 $\alpha$  T Cells in HIV Infection.** — Petrovas, C. et.al.  
*J Immunol*. 2009 Jul 15;183(2):1120-32.

**Binding of Submaximal C1q Promotes Complement-Dependent Cytotoxicity (CDC) of B Cells Opsonized with Anti-CD20 mAbs Ofatumumab (OFA) or Rituximab (RTX): Considerably Higher Levels of CDC Are Induced by OFA than by RTX.** — Pawluczko, A. W. et.al.  
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*Proc Natl Acad Sci U S A*. 2009 Oct 20;106(42):17852-7.

**Alpha6beta4 integrin crosslinking induces EGFR clustering and promotes EGF-mediated Rho activation in breast cancer.** — Gilcrease, M. Z. et.al.  
*J Exp Clin Cancer Res*. 2009 May 26;28:67.

**Moving Pictures: Imaging Flow Cytometry for Drug Development.** — Elliott, G. S.  
*Comb Chem High Throughput Screen*. 2009 Nov;12(9):849-59.

**The Urokinase Plasminogen Activator Receptor Promotes Efferocytosis of Apoptotic Cells.** — D'Mello, V. et.al.  
*J Biol Chem*. 2009 Jun 19;284(25):17030-8.

**Numbers matter: quantitative and dynamic analysis of the formation of an immunological synapse using imaging flow cytometry.** — Ahmed, F. et.al.  
*J Immunol Methods*. 2009 Aug 15;347(1-2):79-86.

**Morphological characterization of very small embryonic-like stem cells (VSELs) by ImageStream system analysis.** — Zuba-Surma, E. K. et.al.  
*J Cell Mol Med*. 2008 Jan-Feb;12(1):292-303.

**Autophosphorylation docking site Tyr867 in Mertk allows for dissociation of multiple signaling pathways for phagocytosis of apoptotic cells and downmodulation of LPS-inducible NF- $\kappa$ B transcriptional activation.** — Tibrewal, N. et.al.  
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*Comb Chem High Throughput Screen*. 2008 Sep;11(8):624-46.

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**Enucleation of primitive erythroid cells generates a transient population of "pyrenocytes" in the mammalian fetus.** — McGrath, K. E. et.al.  
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**Multispectral imaging of hematopoietic cells: Where flow meets morphology.** — McGrath, K. E. et.al.  
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**Deregulation of c-Myc Confers Distinct Survival Requirements for Memory B Cells, Plasma Cells, and Their Progenitors.** — Khuda, S. E. et.al.  
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**Quantitative image based apoptotic index measurement using multispectral imaging flow cytometry: a comparison with standard photometric methods.** — Henery, S. et.al.  
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**Binding, Internalization, and Antigen Presentation of Vaccine-Loaded Nanoengineered Capsules in Blood.** — De Rose, R. et.al.  
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**CD44 Deficiency Attenuates Chronic Murine Ileitis.** — Collins, C. B. et.al.  
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**Optimization of Yeast Cell Cycle Analysis and Morphological Characterization by Multispectral Imaging Flow Cytometry.** — Calvert, M. E. et.al.  
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**Binding of Rituximab, Trastuzumab, Cetuximab, or mAb T101 to Cancer Cells Promotes Trophocytosis Mediated by THP-1 Cells and Monocytes.** — Beum, P. V. et.al.  
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**The unexpected effect of cyclosporin A on CD56 $^+$ CD16 $^-$  and CD56 $^+$ CD16 $^+$  natural killer cell subpopulations.** — Wang, H. et.al.  
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**Image-Based Study of Interferogenic Interactions between Plasmacytoid Dendritic Cells and HSV-Infected Monocyte-Derived Dendritic Cells.** — Megjugorac, N. J. et.al.  
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**Temporal Dissection of T-bet Functions.** — Matsuda, J. L. et.al.  
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**Autophagy-Dependent Viral Recognition by Plasmacytoid Dendritic Cells.** — Lee, H. K. et.al.  
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**Cellular Image Analysis and Imaging by Flow Cytometry.** — Basiji, D. A. et.al.  
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**Multispectral Imaging Flow Cytometry.** — Basiji, D.  
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**Intracellular Kaposi's Sarcoma-Associated Herpesvirus Load Determines Early Loss of Immune Synapse Components. — Adang, L. A. et.al.**

*J Virol.* 2007 May;81(10):5079-90.

**Sensitivity Measurement and Compensation in Spectral Imaging. — Ortyn, W. E. et.al.**

*Cytometry A.* 2006 Aug 1;69(8):852-62.

**Quantitative Measurement of Nuclear Translocation Events using Similarity Analysis of Multispectral Cellular Images Obtained in Flow. — George, T. C. et.al.**

*J Immunol Methods.* 2006 Apr 20;311(1-2):117-29.

**Receptor Cross-Linking on Human Plasmacytoid Dendritic Cells Leads to the Regulation of IFN- $\alpha$  Production. — Fanning, S. L. et.al.**

*J Immunol.* 2006 Nov 1;177(9):5829-39.

**Quantitative analysis of protein co-localization on B cells opsonized with rituximab and complement using the ImageStream multispectral imaging flow cytometer. — Beum, P. V. et.al.**

*J Immunol Methods.* 2006 Dec 20;317(1-2):90-9.

**Asynchronous Progression through the Lytic Cascade and Variations in Intracellular Viral Loads Revealed by High-Throughput Single-Cell Analysis of Kaposi's Sarcoma-Associated Herpesvirus Infection. — Adang, L. A. et.al.**

*J Virol.* 2006 Oct;80(20):10073-82.