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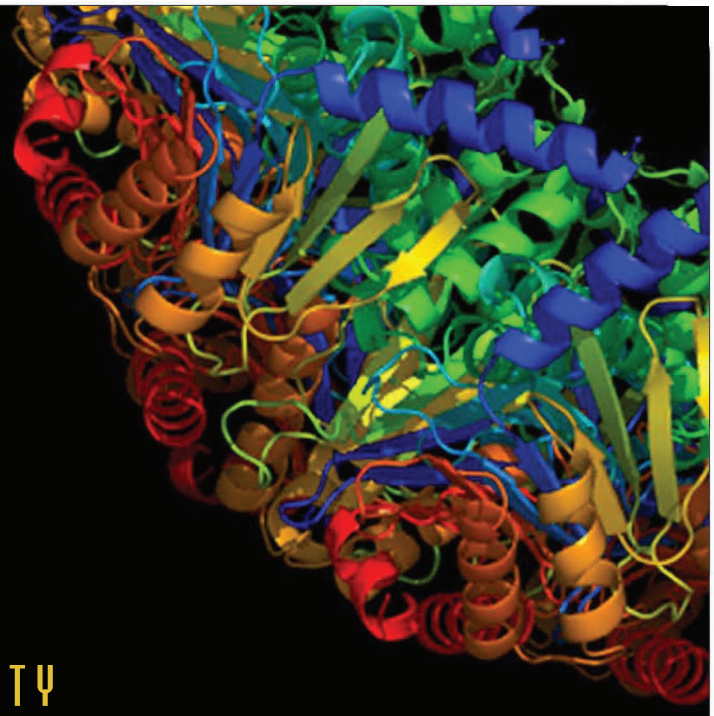
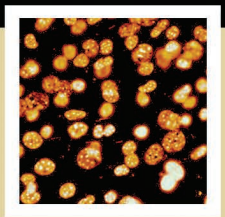


INTERNATIONAL PROTEOLYSIS SOCIETY
QUICKCUTS

APRIL/MAY 07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FOR ALL OF YOUR IMPORTANT PROTEASE QUESTIONS

A Message From the President:

Welcome to the second of our newsletters for 2007. Thanks again to Matt for keeping this ball rolling, its really important to us that members can see the benefits of remaining part of the Society and these newsletters are a really important part of that.

I hope that most of you have been able to have a look at our new website and perhaps even taken part in some of the online discussions on the blog site. Hopefully you will all derive great benefit from this excellent resource.

Membership renewals are rolling in at present, please could you keep pushing it in your local environment and anywhere you have influence, the more we are able to raise in this way, the better we will be able to provide excellent benefits to our members. Matt has done an excellent job of raising sponsorship money and this considerably enhances our contribution to the biannual meeting, through both direct and indirect contributions.

Please don't forget the next General Meeting of the Society, to be held in Patras, Greece, 20-24th October 2007 (www.ips2007patras.gr). Georgia Sotiropoulou and her organising committee are doing a great job, please support them by attending. The preliminary program looks excellent and I'm sure it will be a fantastic meeting, so don't miss out! For our members-in-training, one of the primary ways in which the Society supports the meeting is to make at least 25 travel awards to help you attend the conference. Applications can be made at the time of submitting your abstract to the conference. Also, don't forget the training workshops before the main meeting, these are an excellent way for young scientists to develop and enhance their skills.

Rob Pike, Council President - rob.pike@med.monash.edu.au

Improvements for the IPS

Matthew Bogyo, IPS Secretary

We continue our efforts to improve the IPS and bring in new members and increase communication among active members. The most significant changes have been the redesign of the webpage and the launch of the blog site. In addition we have now made it easier for members to renew their membership and for new protease biologists to become IPS members by launching an online payment system for dues. As a result, our membership numbers are closing in on where they were at the end of the last dues cycle. This is a significant improvement over past years where we experienced a flood of applications just prior to the registration deadline for our General Meeting. I am glad to see that many of you made the effort to pay your dues early and hope that you are planning to attend the meeting in Petras this year. Please remember that the early registration deadline is approaching quickly! We are expecting an exciting program and have dedicated a significant amount of space in this issue of QuickCuts to provide updates on the program, speakers, awards, etc. Please encourage all your friends and colleagues working on proteases to register to attend. We are planning to select the majority of talks from submitted abstracts so please submit your best work so we can insure a great meeting!

Our efforts to improve the website and newsletter have significantly enhanced our ability to get corporate sponsorship of the society. This is absolutely vital in order to keep the society functioning and to provide travel awards to our members in training to attend the general meetings. Since our last newsletter we have welcomed several new sponsors, including Catalyst Biosciences who joined Merck as one of our primary sponsors. The IPS thanks them for there commitment to the society and to the protease research community.

The past few months since the last issue of QuickCuts has seen an increase in the amount of communication between members although it would be great to see this continue to improve. The blog site has had its ups and downs and was recently moved to a password-protected site that can only be accessed by IPS members. After getting feedback from a posting about the need to open the site to the general public, it was decided to that in order for it to be valuable we would need to make it open source. I am in the process of getting this set up and it should happen soon. I also want to make it easier for people to post their own topics. We need to keep it flowing with new information. Please make an effort to logon often and make postings. I will send out a mailing when I get the site opened up and available for direct posts. Many thanks to those of you that have contributed to the blog so far!

Many thanks to all of our current members for supporting this great society. Please be sure to contact me if you have any issues or concerns or ideas on ways to improve the website, newsletter or blog site.

Meeting Report - British Society for Matrix Biology

Matrix Turnover – Mechanisms and Common Denominators

Klaudia Brix, IPS Council Member

A joint meeting of the British Society for Matrix Biology (BSMB) and the Biochemical Society on "Matrix Turnover – Mechanisms and Common Denominators" was held at Sheffield Hallam University from 2nd to 3rd April 2007. The conference organizer, IPS-Member Dave Buttle succeeded in setting up an exciting and well balanced program that encouraged interactions between researchers in diverse areas of matrix biology. The selection of topics was such that essentially all aspects of matrix homeostasis from synthesis to degradation were reviewed. Invited and selected talks from established researchers and young investigators were integrated in the sessions on regulation of matrix turnover in general, in the intervertebral discs, in the central nervous system, and during fibroses. The poster session was a viable forum for exchange of ideas and in-depth discussions. The meeting was concluded with insightful lectures on the significance of matrix for tumor/stroma interactions.

Particularly interesting for those of us specializing in proteolysis and its regulation, was the notion that all classes of proteases and their inhibitors find their niches in the control of matrix turnover. New discoveries on the functions of more recently described proteases were as exciting as the presentations alluding to the dynamic formation and break-down of the extra-cellular matrix. That ECM functions are of course not limited to structural tasks might not come as a surprise. Great advances were made in the understanding of how ECM supports homeostasis by storing and controlling the levels of mediators like TGFß and IL-1 in inflammatory processes leading to fibroses or resulting in tissue repair. Matrix synthesis and cross-linking mechanisms as well as the role of matrix-degrading enzymes were the focus of many talks. Why this is important not only for health and disease but also for tissue engineering was covered well and in more depth than often seen, possibly due to the research foci of several groups working at the Universities of Sheffield and nearby Manchester and Leeds. If three-dimensionality of the ECM is the answer to questions about proper cell and tissue functions, interdisciplinarity might well be the clue to learn more about it. To this end, the delegates experienced a wonderful journey from collagen chemistry to cell therapy that was presented by Professor Mike Grant from Manchester in his memorable Fell-Muir Award lecture.

The meeting was informative, enjoyable and topped by an unusual location for the Meeting Dinner at Kelham Island Museum, where we studied industrial design after learning about tissue architecture. This event and the entire meeting were dynamic and interactive, in line with the interplay of cells and their matrix.

Report by Klaudia Brix, Jacobs University Bremen, Germany, Member of the BSMB and the IPS, May 2007; contact: k.brix@jacobs-university.de.

INTERNATIONAL PROTEOLYSIS SOCIETY **PRESENTS**

5th General Meeting - Petras, Greece

20-24 October 2007

The 5th General Meeting of the International Proteolysis Society will be held from October 20-24th at the Conference and Cultural Center of the University of Patras, Patras, GREECE. This meeting represents the main event of the IPS and is expected to be attended by several hundred protease scientists.

Important Deadlines

Registration: June 10, 2007 (Early)
September 10, 2007 (Late)
Abstract submission: July 10, 2007
June 10, 2007 (for oral presentations)

Organizers

Georgia Sotiropoulou, Greece (Chair)
Francesc X. Avilés, Spain and Matthew Bogyo, USA (Vice Chairs)

Georgios Pampalakis, Andreas Scorilas, Georgios Spyroulias, Maroulio Talieri, Athanassios Yiotakis (LOC)

Magnus Abrahamson, Sweden; Judith S. Bond, USA; Sylvain Cottens, Switzerland; David Deperthes, Switzerland; Eleftherios P. Diamandis, Canada; Ben Dunn, USA; Hans Fritz, Germany, Christopher Overall, Canada; Bonnie F. Sloane, USA; Christian Sommerhoff, Germany; Boris Turk, Slovenia.

Scientific Advisory Committee

Alan Barrett, UK; Philip Bird, Australia; Roy Black, USA; Francesco Blasi, Italy; Wolfram Bode, Germany; Klaudia Brix, Germany; Lisa Coussens, USA; Charles Craik, USA; Dylan Edwards, UK; Hiroshi Kido, Japan; Carlos Lopéz-Otín, Spain; Lynn M. Matrisian, USA; Gillian Murphy, UK; Hideaki Nagase, UK; Maria Luiza V. Oliva, Brazil; Jan Potempa, USA/Poland; Guy S. Salvesen, USA; William Stetler-Stevenson, USA; Edward D. Sturrock, SA; Koji Suzuki, Japan; Nektarios Tavernarakis, Greece; Nancy Thornberry, USA; Michael S. Wolfe, USA.

Program Higlights

Plenary Sessions

- Proteolysis in Physiological Processes and Disease Mechanisms
- Insights into Protease Specificity, Mechanisms and Regulation
- Processing and Degradation - Ubiquitin and Proteasome
- Inflammation and Cell Death Cascades
- Pathogen Invasion and Host Defence
- Intramembrane Proteolysis in Health and Disease
- Intracellular and Extracellular Shedding of Membrane Proteins - Signalling Pathways
- Proteolytic Pathways in the Tumor Microenveronment: Role in Malignant Progression
- Protective Effects of Proteases and Inhibitors on Tumor Progression
- Pathology and Drug Discovery - Therapeutic Advances in Protease Inhibition and Modulation
- Degradomics: Protease Proteomics and Genomics
- Imaging and In Vivo Probes - New Technologies
- Biotechnology of Proteases and Inhibitors - Transgenic Animals and Plants

Lunch Workshops

- Applications of mass spectrometry for identification of protease substrates
- Imaging of protease functions
- Technology platforms for drug discovery and development

http://www.ips2007patras.gr



Invited Speakers

Keynote Speaker

Aaron Ciechanover (Technion-Israel Institute of Technology, Israel)
Nobel Prize in Chemistry 2004

Plenary Speakers

Joaquin Arribas (Vall d'Hebron University, Spain)
Michael J. Blackman (NIMR London, UK)
Lisa Coussens (UCSF, USA)
Eleftherios P. Diamandis (University of Toronto, Canada)
Ivan Dikic (Goethe University, Germany)
Kris Gevaert (Ghent University, Belgium)
Piet Gros (Utrecht University, The Netherlands)
Markus G. Grütter (University of Zürich, Switzerland)
Margarete Heck (University of Edinburgh, UK)
Renier van der Hoorn (Max Planck, Germany)
Morley D. Hollenberg (University of Calgary, Canada)
Ulrich Hommel (Novartis/Basel, Switzerland)
James A. Huntington (University of Cambridge, UK)
Johanna A. Joyce (Sloan-Kettering, USA)
Achim Kruger (TUM, Germany)
Carlos Lopéz-Otín (University of Oviedo, Spain)
Ed Madison (Catalyst Biosciences, USA)
Patrick C.May (Eli Lilly, Indianopolis, USA)
Marie-Christine Rio (Uni. Louis Pasteur, Strasbourg, France)
Guy Salvesen (Burnham Institute, USA)
Julio Scharfstein (Cidade Universitaria, Brazil)
Sinisa Urban (John Hopkins University, USA)
James Whisstock (Monash University, Australia)
Michael Wolfe (Harvard University, USA)

Awards

- Junior Investigator Prize sponsored by Verisfield (UK) Ltd
- Best Poster Prize sponsored by the Biochemical Journal
- Travel Awards for participants In-training sponsored by Catalyst Biosciences and Merck

Meeting Tours

- Olympia
- Delphi
- Mycenae/Nauplion/Epidaurus
- Athens/Cape Sounion
- Nafpaktos/Rion-Antirion bridge
- Patras City Tour

Contacts

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IPS2007 Secretary (scientific program, abstract submission)
Email: ips2007@upatras.gr

IMPORTANT **PROTEASE** PAPERS I

Research Publications

Vincents B, Onnerfjord P, Gruca M, Potempa J, Abrahamson M

Down-regulation of human extracellular cysteine protease inhibitors by the secreted staphylococcal cysteine proteases, staphopain A and B

Biol Chem 2007 Apr;388(4):437-46.

Babady NE, Pang YP, Elpeleg O, Isaya G

Cryptic proteolytic activity of dihydrolipoamide dehydrogenase

Proc Natl Acad Sci U S A 2007 Apr 2

Lemieux MJ, Fischer SJ, Cherney MM, Bateman KS, James MN.

The crystal structure of the rhomboid peptidase from Haemophilus influenzae provides insight into intramembrane proteolysis

Proc Natl Acad Sci U S A. 2007 Jan 16;104(3):750-4.

Yin J, Cherney MM, Bergmann EM, Zhang J, Huitema C, Pettersson H, Eltis LD, Vederas JC, James MN.

An episulfide cation (thiiranium ring) trapped in the active site of HAV 3C proteinase inactivated by peptide-based ketone inhibitors.

J Mol Biol. 2006 Aug 25;361(4):673-86.

Spink E, Cosgrove S, Rogers L, Hewage C, Malthouse JP.

13C and 1H NMR studies of ionizations and hydrogen bonding in chymotrypsin-glyoxal inhibitor complexes

J Biol Chem. 2007 Mar 16;282(11):7852-61.

Hwang SR, Garza C, Mosier C, Toneff T, Wunderlich E, Goldsmith P, Hook V.

Cathepsin L expression is directed to secretory vesicles for enkephalin neuropeptide biosynthesis and secretion.

J Biol Chem. 2007 Mar 30;282(13):9556-63

Wegrzyn J, Lee J, Neveu JM, Lane WS, Hook V.

Proteomics of Neuroendocrine Secretory Vesicles Reveal Distinct Functional Systems for Biosynthesis and Exocytosis of Peptide Hormones and Neurotransmitters.

J Proteome Res. 2007 Apr 5;

Lechner AM, Assfalg-Machleidt I, Zahler S, Stoeckelhuber M, Machleidt W, Jochum M, Nagler DK

RGD-dependent binding of procathepsin X to integrin alphavbeta3 mediates cell-adhesive properties.

J Biol Chem. 2006 Dec 22;281(51):39588-97

Schwartz DR, Moin K, Yao B, Matrisian LM, Coussens LM, Bugge TH, Fingleton B, Acuff HB, Sinnamon M, Nassar H, Platts AE, Krawetz SA, Linebaugh BE, Sloane BF.

Hu/Mu ProtIn Oligonucleotide Microarray: Dual-Species Array for Profiling Protease and Protease Inhibitor Gene Expression in Tumors and Their Microenvironment

Mol Cancer Res. 2007 May;5(5):443-54.

Pop C, Fitzgerald P, Green DR, Salvesen GS.

Role of proteolysis in caspase-8 activation and stabilization.

Biochemistry. 2007 Apr 10;46(14):4398-407.

Zeeuwen PL, Ishida-Yamamoto A, van Vlijmen-Willems IM, Cheng T, Bergers M, Iizuka H, Schalkwijk J.

Colocalization of cystatin M/E and cathepsin V in lamellar granules and corneodesmosomes suggests a functional role in epidermal differentiation.

J Invest Dermatol. 2007 Jan;127(1):120-8.

Ries C, Egea V, Karow M, Kolb H, Jochum M, Neth P

MMP-2, MT1-MMP, and TIMP-2 are essential for the invasive capacity of human mesenchymal stem cells: differential regulation by inflammatory cytokines.

Blood. 2007 May 1;109(9):4055-63.

Chow AK, Cena J, El-Yazbi AF, Crawford BD, Holt A, Cho WJ, Daniel EE, Schulz R.

Caveolin-1 inhibits matrix metalloproteinase-2 activity in the heart.

J Mol Cell Cardiol. 2007 Apr;42(4):896-901.

Sariahmetoglu M, Crawford BD, Leon H, Sawicka J, Li L, Ballermann BJ, Holmes C, Berthiaume LG, Holt A, Sawicki G, Schulz R.

Regulation of matrix metalloproteinase-2 (MMP-2) activity by phosphorylation.

FASEB J. 2007 Apr 13; [Epub ahead of print]

Dean RA, Overall CM.

Proteomics discovery of metalloproteinase substrates in the cellular context by iTRAQ labeling reveals a diverse MMP-2 substrate degradome.

Mol Cell Proteomics. 2007 Apr;6(4):611-23.

CONTINUED NEXT PAGE ▶

IMPORTANT **PROTEASE** PAPERS II

Tester AM, Cox JH, Connor AR, Starr AE, Dean RA, Puente XS, Lopez-Otin C, Overall CM.

LPS Responsiveness and Neutrophil Chemotaxis In Vivo Require PMN MMP-8 Activity.

PLoS ONE. 2007 Mar 21;2:e312.

Baker RP, Young K, Feng L, Shi Y, Urban S.

Enzymatic analysis of a rhomboid intramembrane protease implicates transmembrane helix 5 as the lateral substrate gate.

Proc Natl Acad Sci U S A. 2007 May 15;104(20):8257-62.

Rose PP, Bogyo M, Moses AV, Fruh K.

Insulin-like Growth Factor II Receptor-mediated intracellular Retention of Cathepsin B is essential for transformation of endothelial cells by Kaposi's sarcoma associated herpesvirus.

J Virol. 2007 May 16; [Epub ahead of print]

Cuerrier D, Moldoveanu T, Campbell RL, Kelly J, Yoruk B, Verhelst SH, Greenbaum D, Bogyo M, Davies PL.

Development of calpain-specific inactivators by screening of positional scanning epoxide libraries.

J Biol Chem. 2007 Mar 30;282(13):9600-11.

List K, Hobson JP, Molinolo A, Bugge TH.

Co-localization of the channel activating protease prostasin/(CAP1/PRSS8) with its candidate activator, matriptase.

J Cell Physiol. 2007 Apr 30; [Epub ahead of print]

Bhatt AS, Welm A, Farady CJ, Vasquez M, Wilson K, Craik CS.

Coordinate expression and functional profiling identify an extracellular proteolytic signaling pathway.

Proc Natl Acad Sci U S A. 2007 Apr 3;104(14):5771-6.

Wayne GJ, Deng SJ, Amour A, Borman S, Matico R, Carter HL, Murphy G.

TIMP-3 inhibition of ADAMTS-4 (Aggrecanase-1) is regulated by interactions between aggrecan and the C-terminal domain of ADAMTS-4.

J Biol Chem. 2007 Apr 30; [Epub ahead of print]

Pillai B, Cherney MM, Hiraga K, Takada K, Oda K, James MN.

Crystal structure of scytalidoglutamic peptidase with its first potent inhibitor provides insights into substrate specificity and catalysis.

J Mol Biol. 2007 Jan 12;365(2):343-61.

Kitamoto S, Sukhova GK, Sun J, Yang M, Libby P, Love V, Duramad P, Sun C, Zhang Y, Yang X, Peters C, Shi GP.

Cathepsin L deficiency reduces diet-induced atherosclerosis in low-density lipoprotein receptor-knockout mice.

Circulation. 2007 Apr 17;115(15):2065-75.

Ho YK, Bargagna-Mohan P, Wehenkel M, Mohan R, Kim KB.

LMP2-specific inhibitors: chemical genetic tools for proteasome biology.

Chem Biol. 2007 Apr;14(4):419-30.

REVIEWS

Riedl SJ, Salvesen GS.

The apoptosome: signalling platform of cell death.

Nat Rev Mol Cell Biol. 2007 May;8(5):405-13.

Schulz R.

Intracellular targets of matrix metalloproteinase-2 in cardiac disease: rationale and therapeutic approaches

Annu Rev Pharmacol Toxicol. 2007;47:211-42.

Overall CM, Blobel CP.

IIn search of partners: linking extracellular proteases to substrates.

Nat Rev Mol Cell Biol. 2007 Mar;8(3):245-57.

Lieberman RL, Wolfe MS.

From rhomboid function to structure and back again.

Proc Natl Acad Sci U S A. 2007 May 15;104(20):8199-200

Post-doctoral fellowships in 2007

Yale University School of Medicine - protease biochemistry and molecular biology

Position available to study mechanisms of substrate recognition by the anthrax lethal factor metalloproteinase. Anthrax lethal factor (LF) is a critical component of a deadly toxin produced by Bacillus anthracis and is an important virulence factor in anthrax (for a review, see Biochem J. 2007, 402, 405-417). LF is an extraordinarily specific metalloproteinase, exclusively cleaving MAP kinase kinases (MKKs). The project will involve structure-function studies to identify determinants of LF specificity in vitro that are relevant to its biological activity in cultured cells. One goal of the project will be to identify novel small molecule LF inhibitors, which constitute candidates for anthrax therapeutics. Candidates should have or expect a Ph.D. in chemistry or biological science and should have experience with molecular biology and protein expression/purification. Priority will be given to candidates with a background in cell biology and/or enzymology. Interested applicants should send a current CV and the names of 3 references by email.

More information about the laboratory is available at our homepage:
http://info.med.yale.edu/pharm/faculty/index.php?bioID=38

RECENT PUBLICATIONS

Turk BE, Hutti JE, Cantley LC. Determining protein kinase substrate specificity by parallel solution-phase assay of large numbers of peptide substrates.Nat Protoc. 2006;1(1):375-9.

Turk BE. Manipulation of host signalling pathways by anthrax toxins.Biochem J. 2007 Mar 15;402(3):405-17.

Bullock AN, Debreczeni J, Amos AL, Knapp S, Turk BE. Structure and substrate specificity of the Pim-1 kinase.J Biol Chem. 2005 Dec 16;280(50):41675-82.

Hutti JE, Jarrell ET, Chang JD, Abbott DW, Storz P, Toker A, Cantley LC, Turk BE. A rapid method for determining protein kinase phosphorylation specificity. Nat Methods. 2004 Oct;1(1):27-9.

Contact: Ben Turk (ben.turk@yale.edu)

Cleveland Clinic Foundation - Developmental Cardiovascular Biology

Post-doctoral fellowships are available to study the functions of ADAMTS proteases. ADAMTS proteases have been implicated in inherited connective tissue disorders, cell migration and angiogenesis. The overall goal of the laboratory is to understand the role of ADAMTS proteases in molecular networks, with a strong focus on developmental biology and genetics related to the cardiovascular system.

The laboratory will suit highly motivated new or recent PhD or MD/PhD graduates who are interested in augmenting or developing skills in developmental biology, mouse genetics, embryology, cell biology, enzymology and protein chemistry. A strong interest in mammalian development, cardiovascular biology and mouse genetics is desirable. The laboratory offers a stimulating and constructive environment for your professional development. The Lerner Research Institute has state of the art research facilities in a major clinical center, the Cleveland Clinic Foundation, and is affiliated with the adjacent Case Western Reserve University. Cleveland and its vicinity offer an affordable, high quality of life with outstanding recreational and cultural opportunities.

Contact: Suneel S. APTE, MD, PhD (aptes@ccf.org)

Industry Jobs in 2007

Novo Nordisk - Senior Scientist – Haemostasis Protein Biochemistry

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Department of Haemostasis Biochemistry is a multi-disciplinary protein engineering department span-ning technologies from molecular biology and protein chemistry to molecular modeling. Furthermore, we are engaged in general biochemistry, enzymology and other activities aimed at understanding structure/function relationships of coagulation proteins.

Qualifications

- A PhD with postdoctoral experience is required, as well as an outstanding publication record in a relevant field. The successful candidate should have a significant level of background knowledge and working experience within protein biochemistry of coagulation proteins.
- Experience with protein engineering, and enzymology is considered essential while knowledge of bioconjugation chemistry definitely would be an advantage.
- Knowledge within aspects of pharmaceutical discovery and development would be an advan-tage.
- A sound knowledge of spoken and written English
- You are creative and dynamic with ability to generate enthusiasm and results through other people and in project teams.

Contact

To apply please contact Henning Stennicke at hrse@novonordisk.com no later than June 15, 2007.

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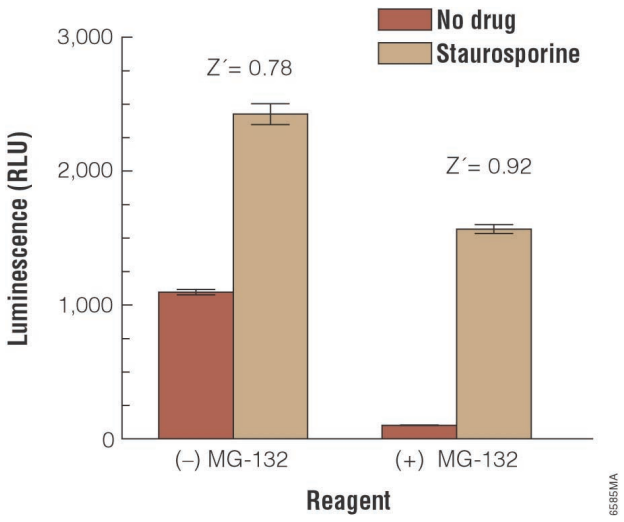
Experience Improved Selectivity for Caspase-8 & Caspase-9

Caspase-Glo® 8 Assay uses a luminogenic substrate containing the LETD sequence, and Caspase-Glo® 9 Assay uses LEHD sequence, both of which have been shown to be selective for their respective caspase enzymes (1,2). The assays include an optional proteasome inhibitor (MG-132), which when added to the Caspase-Glo Reagent, significantly reduces nonspecific background in cell-based assays.

Caspase-Glo 8 & Caspase-Glo 9 Assays are homogeneous luminescent assays that selectively measure caspase-8 or caspase-9 activity. The assays provide proluminogenic substrates in a buffer system optimized for caspase activity, luciferase activity and cell lysis. The addition of a single Caspase-Glo Reagent in an "add-mix-read" format results in cell lysis, followed by caspase cleavage of the substrate and generation of a "glow-type" luminescent signal. The signal generated is proportional to the amount of caspase activity present. The Caspase-Glo Reagent relies on the properties of the proprietary thermostable luciferase, Ultra-Glo™ Recombinant Luciferase, which generates a stable luminescent signal and improves performance across a wide range of assay conditions.

For additional information on these assays, please request or download the Technical Bulletins from the Promega web site: Caspase-Glo® 8 Assay or Caspase-Glo® 9 Assay
SIDEBAR: If you are interested in trialing a new Caspase-2 or Caspase-6 assay currently in development, please contact Promega for information.
Neal Cosby, PhD, Strategic Marketing Manager neal.cosby@promega.com



Comparison of the Caspase-Glo 8 Assay with and without the proteasome inhibitor, MG-132. Note the improved signal:noise ratio when MG-132 is included as well as the improved Z'-factor, an indication of assay performance widely used in screening applications. Data was generated in 384-well plates.

References

1. Thornberry, N.A., Chapman, K.T. and Nicholson, D.W. (2000) Methods Enzymol. 322, 100–10.
2. Garcio-Calvo, M. et al. (1999) Cell Death Differ. 6, 362–9.

To learn more about the Caspase-Glo Assays from Promega: **www.promega.com/drugdiscovery**

INTERNATIONAL PROTEOLYSIS SOCIETY

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