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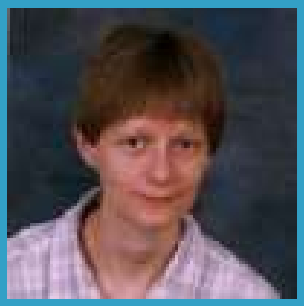

Research Interests: Mass Spectrometry of Biological Molecules with an emphasis on Proteomics

Mass Spectrometry in Biomolecular Research

As well as running the Mass Spectrometry and Proteomics Facility in the Centre for Biomolecular Sciences, I am interested in using mass spectrometry to further Biomolecular research.

Collaborative Proteomics Projects

A number of collaborative research projects, where mass spectrometry can play a crucial role, are also underway, working with other members of the Centre for Biomolecular Sciences on research projects e.g. identifying SUMO substrates, changes in expression levels of DNA repair enzymes in response to damage, strategies used by yeast to survive in low pH environments.

Mass Spectrometric Method Development

There is also a programme method development to ensure that techniques are available in the laboratory to allow specific research problems to be addressed as they arise. For example, obtaining mass spectrometric signals for proteins in detergents, enriching for phosphopeptides and obtaining signals for proteins run on SDS-PAGE gels.

SELECTED RECENT PUBLICATIONS

1. Botting, C. H.; The use of the slow crystallisation method to improve MALDI-TOF signals for larger proteins, *Rapid Communications in Mass Spectrometry*, 2000, **14**, 2030-2033.
2. Tatham, M. H., Jaffray, E., Vaughan, O. A., Desterro, J. M. P., Botting, C. H., Naismith, J. H. and Hay, R. T.; Polymeric Chains of SUMO-2 and SUMO-3 Are Conjugated to Protein Substrates by SAE1/SAE2 and Ubc9, *J. Biol. Chem.,* 2001, **276**, 35368-35374.
3. Bell, S.D., Botting, C.H., Wardleworth, B.N., Jackson, S.P. and White, M.F. Alba, a conserved archaeal chromatin protein, interacts with Sir2 and is regulated by acetylation, *Science,* 2002, **296**, 148-151.
4. Botting, C. H.; Improved detection of higher molecular weight proteins by MALDI-TOFMS on polytetrafluoroethylene surfaces, *Rapid Communications in Mass Spectrometry,* 2003, **17**, 598-602.
5. Mendoza, H.M., Shen, L.N., Botting C., Lewis, A., Chen, J., Ink, B. and Hay, R.T.; NEDP1. a highly conserved cysteine protease that deNEDDylates Cullins, *J. Biol. Chem.,* 2003, **278**, 25637-25643.
6. Lawrence, C.L., Botting, C.H., Antrobus, R and Coote, P.J.; Evidence of a new role for the High Osmolarity Glycerol (HOG) pathway in yeast: regulating adaptation to citric acid stress. *Mol. Cell. Biol.,* 2004, **24**, 3307-3323.
7. Makrantoni, V., Antrobus, R., Botting, C.H. and Coote, P.J.; Rapid enrichment and analysis of yeast phosphoproteins using affinity chromatography, 2D-PAGE and peptide mass fingerprinting, *Yeast,* 2005, **22**, 401-414.
8. Mukhopadhyay, B., Cura, P, Kartha, K.P.R., Botting, C.H.and Field, R.A.; Glycosylation with *in situ* separation: carbohydrate chemistry on a TLC plate. *Organic and Biomolecular Chemistry,* 2005, **19**, 3468-3470.