Welcome to the web-based reference section of *Introducing Proteomics*.

For convenience the references are contained in different files, covering one chapter each. You will find some references in more than one chapter.

In order to be able to search the references for publications in certain fields you can use the edit/find function in your text editing program or in Adobe Reader (URL: http://www.adobe.com/products/reader/). For this purpose most references have a short description containing major keywords. This collection of references will be updated twice a year to stay up to date.

References labelled with an asterisk (*) are exclusive to this collection and will not be found in the printed version of the book.

If you feel I should include any references that you find important, please contact me at josip.lovric@manchester.ac.uk

### Chapter 2 Separation and Detection Technologies


PAGE, with many theoretical explanations for practical problems and, of course, commercial solutions to some problems.


* Komatsu, S., Zang, X. and Tanaka, N. (2005) Comparison of two proteomics techniques used to identify proteins regulated by gibberellin in rice. J Proteome Res, 5, 270–276. Compares the two most abundant proteomic separation technologies: 2D gels and shotgun proteomics. While technologies are moving on, the trends in results from this study remain typical to this day.


* Michaels, J.E.A., Dasari, S., Pereira, L. *et al.* (2007) Comprehensive proteomics analysis of the human amniotic fluid proteome: Gestational age-dependent changes. *J Proteome Res*, 6, 1277–1285. Another study that shows the general trend: gel based (DIGE) and shotgun proteomic studies complement each other, but shotgun identifies a lot more proteins, with limited overlap between the approaches.


Reisinger, V. and Eichacker, L.A. (2007) How to analyze protein complexes by 2D blue native SDS PAGE. *Practical Proteomics*, 1, 6–16. The technology of blue native gels (also known as Schagger gels) can separate massive protein complexes, using coomassie blue instead of SDS in
PAGE gels. Much underrated technology, partly because of the technical difficulties, which you will not need to face if you avoid the pitfalls by following the tips in this review (see also Reisinger and Eichacker, 2006; Wittig et al., 2006).


* Smith, L., Qutob, O., Watson, M.E. et al. (2009) Proteomic identification of putative biomarkers of radiotherapy resistance: A possible role for the 26S proteasome? Neoplasia, 11 (11), 1194–1207. Still going strong, despite the stiff competition, 2D gel electrophoresis based proteomics (with MALDI ToF PMF and MALDI ToF/ToF MS/MS) identifies (and quantifies) over a thousand proteins from cancer cell lines and delivers several dozen potential biomarkers.


* Van Eyk, J.E. and Dunn, M.J. (eds) (2002) Proteomic and Genomic Analyses of Cardiovascular Disease. Weinheim: Wiley-VCH. Covers a variety of methods of interest not only for cardiovascular diseases but also many other fields where proteomics is applied.

and isoelectric focusing: Increasing coverage or more of the same? *Proteomics*, 8, 5074–5085. 

Critical evaluation of the limitations in increasing the resolution of 2D gel based approaches.


* Wilce, M.C.J., Aguilar, M.I. and Hearn, M.T.W. (1995) Physicochemical basis of amino acid hydrophobicity scales: Evaluation of four new scales of amino acid hydrophobicity coefficients derived from RP-HPLC peptides. *Anal Chem*, 67, 1210–1219. *Hydrophobicity is not always as easy to define as one would expect, but it is important to be able to predict the elution of peptides, for example, in RP LC.*


* Wittig, I., Brain, H.P. and Schagger, H. (2006) Blue native PAGE. *Nat Protocols*, 1(1), 418–428. The technology of blue native gels (also known as Schagger gels) can separate massive protein complexes, using coomassie blue instead of SDS in PAGE gels. Much underrated technology, partly because of the technical difficulties, which you will not need to face if you follow this ‘how to’ protocol, straight from the person who gave the gels their name. See also the review by Reisinger and Eichacker (2007) and the ‘how to’ report with pictures by Reisinger and Eichacker (2006).


