



The following PolyLC technical papers are available from Hichrom Limited. To request copies simply email [papers@hichrom.co.uk](mailto:papers@hichrom.co.uk) with the relevant order code and your contact details.

Autumn, 2001

<u>PAPERS ON PolyCAT A™</u>	<u>SUBJECT</u>
C1) Alpert, <u>J. Chromatogr. 266</u> (1983) 23.	Description of <b>PolyCAT A</b> .
C2) Ou <u>et al.</u> , <u>J. Chromatogr. 266</u> (1983) 197.	Analysis of <b>hemoglobin</b> variants.
C3) Parente and Wetlaufer, <u>J. Chromatogr. 288</u> (1984) 389.	Effect of urea on cation-ex. of lysozyme.
C4) Aswad, <u>J. Biol. Chem. 259</u> (1984) 10714.	Cation-ex. of <b>ACTH</b> .
C5) Parente and Wetlaufer, <u>J. Chromatogr. 314</u> (1984) 337.	Effect of heat & urea on cation-ex. of chymotrypsinogen.
C6) Ellis <u>et al.</u> , <u>Clin. Chem. 30</u> (1984) 1746.	Assay of <b>Hemoglobin A1c</b> .
C7) Rogers <u>et al.</u> , <u>Am. J. Clin. Pathol. 84</u> (1985) 671.	Analysis of <b>hemoglobinopathies</b> .
C8) Ou and Carmona, <u>Clin. Chem. 31</u> (1985) 945.	Assay of <b>Hemoglobin A1c</b> (abstract only).
C9) Parente and Wetlaufer, <u>J. Chromatogr. 355</u> (1986) 29.	Isocratic vs. gradient elution of proteins.
C10) Wessels <u>et al.</u> , <u>Clin. Chem. 32</u> (1986) 903.	Diagnosis of <b>Hemoglobin S/Lepore</b> .
C11) Turpeinen, <u>Clin. Chem. 32</u> (1986) 999.	Assay of <b>Hemoglobin A2</b> .
C12) Langer <u>et al.</u> , <u>Anal. Biochem. 166</u> (1987) 212.	Purif. of <b>N-Glycosidase F</b> .
C13) Spiker <u>et al.</u> , <u>J. Chromatogr. 405</u> (1987) 327.	Fractionation of <b>HMG proteins</b> .
C14) Bisse and Wieland, <u>J. Chromatogr. 434</u> (1988) 95.	Assay of <b>Hemoglobins F and A1c</b> .
C15) Kavanaugh <u>et al.</u> , <u>J. Biol. Chem. 264</u> (1989) 11009.	Purif of ATP-labeled <b>hemoglobin</b> .
C16) Marchese <u>et al.</u> , <u>J. Chromatogr. 504</u> (1990)	Separation of three forms of

351.

- C17) Canova-Davis et al., J. Chromatogr. **508** (1990) 81.
- C18) Ebert and Spryn, Bioconjugate Chem. **1** (1990) 331.
- C19) Osheroff et al., J. Biol. Chem. **265** (1990) 9396.
- C20) Kutlar et al., Hum. Genet. **85** (1990) 106.
- C21) Rao et al., BioPharm **4** (#10) (1991) 38.
- C22) Huisman, Sangre **36** (1991) 144.
- C23) Lee et al., Diabetes Res. Clin. Pract. **16** (1992) 53.
- C24) Holmes et al., Science **256** (1992) 1205.
- C25) Burton et al., J. Neurochem. **59** (1992) 1937.
- C26) Fu et al., J. Biol. Chem. **266** (1991) 14562.
- C27) van der Dijs et al., Clin. Chem. **38** (1992) 1864.
- C28) Ou and Rognerud, Clin. Chem. **39** (1993) 820.
- C29) Kutlar and Huisman, J. Chromatogr. **620** (1993) 183.
- C30) Hazelett et al., Alcohol. Clin. Exp. Res. **17** (1993) 1107.
- C31) Gibbs et al., Proc. Natl. Acad. Sci. **88** (1991) 4001.
- C32) Pantoliano et al., Biochemistry **30** (1991) 10117.
- C33) Milenic et al., Cancer Res. **51** (1991) 6363.
- C34) Stewart et al., Biochemistry **33** (1994) 1994.
- C35) Richard et al., Amer. Clin. Lab. (1/1994) 26.
- rh-Interleukin-2.**
- Characterization of synthetic human **relaxin**.
- Purif. of a Ribosome-Inactivating Protein from barley.
- Prepn. of <sup>32</sup>P-labeled human **relaxin**.
- Assay and purif. of **Hemoglobin F**.
- Separation of post-translational variants of **monoclonal antibodies**.
- HPLC of abnormal **hemoglobins**.
- HPLC of glycated proteins vs. home blood glucose testing.
- Isoln. of **heregulin** (an oncogene product activator).
- Analysis of various forms of **rNerve Growth Factor**.
- Affinity-style isoln. of an **L-Isoaspartyl Protein Carboxyl Methyltransferase**.
- Screening cord blood for hemoglobinopathies and thalassemia.
- Rapid screening for **hemoglobin variants**.
- Micro HPLC method for determining the  $\gamma$  chain composition of **hemoglobin F**.
- Screening **Hemoglobin-acetaldehyde** as a marker for **alcoholism**.
- Purif. of **single-chain catalytic antibody**.
- Purif. of **single-chain anti-fluorescein antibody**.
- Purif. of **single-chain anti-carcinoma antibody**.
- Purif. of **catalytic antibody**.
- Assay of **Hemoglobin A1c**.

- C36) Lu *et al.*, Chromosoma **103** (1994) 111. Separation of **Histone H1 phosphorylation variants** from Tetrahymena.
- C37) Itälä *et al.*, Anal. Biochem. **224** (1995) 323. **Hemoglobin-acetaldehyde** analysis.
- C38) Fiordalisi *et al.*, Protein Exp. Purif. **3** (1992) 282. Purif. of recombinant k-**Bungarotoxin**.
- C39) Pearson *et al.*, Hemoglobin **18** (1994) 401. HPLC of **rat hemoglobins**.
- C40) Thomas *et al.*, Science **241** (1988) 226. Analysis of prohormone versions of  $\beta$ -endorphin and  $\gamma$ -lipotropin.
- C41) Thorne *et al.*, J. Biol. Chem. **264** (1989) 3545. Further study of prohormone processing.
- C42) Thomas *et al.*, J. Biol. Chem. **265** (1990) 10821. More prohormone processing.
- C43) Thomas *et al.*, Proc. Natl. Acad. Sci. **88** (1991) 5297. Still more prohormone processing.
- C44) Pic *et al.*, Ann. Biol. Clin. **52** (1994) 129. Assay of **Hemoglobin F, Fac, & variants**..
- C45) Jones, Meth. Enzymol. **231** (1994) 322. Chemically-modified **hemoglobins**.
- C46) Turpeinen *et al.*, Clin. Chem. **41** (1995) 191. Assay of **Hemoglobin A1c**; comparison of PolyCAT A with Diamat and affinity methods.
- C47) Turpeinen *et al.*, Clin. Chem. **41** (1995) 532. Assay of **Hemoglobin a-chain variants**: Broussais & Cemenelum.
- C48) Bissé *et al.*, Clin. Chem. **41** (1995) 658. Elevation of **Hemoglobin A1d** in uremia.
- C49) Cuevas *et al.*, Clin. Chem. **41** (1995) S98 (abstract 292) Retention of **Hemoglobin variants** relative to the Hb A peak.
- C50) Ou & Rognerud, *ibid*, S100 (abstract 300). Assay of **Hemoglobins** Chicago & South Florida.
- C51) Ou & Rognerud, Clin. Chem. **42** (1996) 774. Assay of **Hemoglobin** Chicago/S trait and Hb Chicago/Sickle Cell disease.
- C52) Shahrokh *et al.*, Pharm. Res. **11** (1994) 936. **Basic Fibroblast Growth Factor**: Isoln. of an Asp<sup>15</sup>  $\rightarrow$  succinimide<sup>15</sup> variant and misc. cleavage variants.
- C53) Bissé *et al.*, J. Chromatogr. B **687** (1996) 349. Elevation of **Hemoglobins** A1d3a and A1d3b in uremia and diabetes, resp.
- C54) Vunnam *et al.*, J. Peptide Res. **49** (1997) 59. Purif. of synthetic cecropin and Pro-Arg-rich peptides from pig intestine.

- C55) Chen et al., Alcohol Clin. Exp. Res. 19 (1995) 939. New **Hemoglobin-acetaldehyde** variants.
- C56) Wilson et al., J. Lab. Clin. Med. 108 (1986) 138. Analysis of **hemoglobins S, C, and O Arab** in cord blood samples.
- C57) Fishman et al., J. Chromatogr. 532 (1990) 55. Separation of **pyridoxylated hemoglobins**.
- C58) Galacteros et al., Blood 78 (1991) 1121. Adult **hemoglobin** conc. vs. gestational age in newborns.
- C59) Roa et al., Ann. Clin. Lab. Sci. 23 (1993) 433. **Hemoglobin variant** detection in dried blood specimens.
- C60) Roa et al., Ann. Clin. Lab. Sci. 25 (1995) 228. Reference ranges for **hemoglobin variants** in African Americans.
- C61) Garibay-Tupas et al., J. Endocrinol. 145 (1995) 441. Prepn. of <sup>32</sup>P-labeled human **relaxin**.
- C62) Huber et al., Prenat. Diagn. 16 (1996) 1011. Estimating **hemoglobin F** from fetal cells isolated from maternal blood.
- C63) Leonova et al., Am. J. Hematol. 53 (1996) 59. Variability in **hemoglobin F** level of normal adults.
- C64) John et al., Clin. Chem. 43 (1997) 968. Evaluation of a **hemoglobin analyzer**; PolyCAT A as the gold standard.
- C65) Lindner et al., J. Chromatogr. A. 782 (1997) 55. Purif. of phosphorylated **histones** by hydrophilic interaction chromatography.
- C66) McDonald et al., Protein Exp. Purif. 8 (1996) 97. QC analysis for **deamidated variant** of a recombinant **fusion protein of basic fibroblast growth factor-saporin** mitotoxin.
- C67) Frantzen, J. Chromatogr. B 699 (1997) 269. **Modified hemoglobins**: A review of analytical methods.
- C68) Mario et al., Clin. Chem. 43 (1997) 52. Comparison of **Hb A<sub>1c</sub>** and **Hb A<sub>1c</sub> (EF)** for **hemoglobin variant** analysis.
- C69) Pearson et al., Hemoglobin 22 (1998) 245. Reversing the **Hb F to Hb A switch** in rats.
- C70) Hazelett et al., Alcohol Clin. Exp. Res. 22 (1998) 1813. Comparison of **Hemoglobin-acetaldehyde** with CDT and other alcoholism markers.
- C71) Sanchez et al., Thrombosis Res. 87 (1997) 289. Purif. of chimeric **fibrolase** attached to an RGD-like peptide.
- C72) Lind512.5

1279. expressed in *Pichia pastoris*.
- C74) Parsell et al., J. Biol. Chem. 271 (1996) 27936. Separation of <sup>32</sup>P-phosphorylated from native **relaxin**.
- C75) Sweet et al., J. Biol. Chem. 272 (1997) 916. Isoln. of phosphorylated Lys-C fragments of linker histones from *Tetrahymena*.
- C76) Al-Abed et al., Proc. Natl. Acad. Sci. 96 (1999) 2385. Separation of rat hemoglobins with adducts of glucose, acetaldehyde, and advanced glycation endproducts.
- C77) Paleari et al., Clin. Chem. 45 (1999) 21. HPLC of Hemoglobin J Sardegna, with a post-translational deamidation.
- C78) Campbell et al., Cytometry 35 (1999) 242. HPLC of Hemoglobin F to correlate results from flow cytometry of erythrocytes.
- C79) Bohmer et al., Blood 95 (2000) 2967. Stimulation of Hb F production by **TGF-b**; Hbs F and A measured by HPLC and flow cytometry.
- C80) Roberts et al., Clin. Chem. 46 (2000) 569. Glycohemoglobin measurements with Hb variants.
- C81) Bissé et al., J. Biol. Chem. 275 (2000) 21380. Detection of a Thr→Ala replacement in Hb Saale.
- C82) Bates et al., J. Biol. Chem. 275 (2000) 6234. Purif. of a **Fe-S cluster** transcription factor protein, **FNR**, from *E. coli*.

PAPERS ON PolyHYDROXYETHYL Aspartamide™, SEC, AND HYDROPHILIC -INTERACTION CHROMATOGRAPHY (HILIC)

SUBJECT

- H1) Alpert, J. Chromatogr. 499 (1990) 177. Introduction of HILIC for HPLC of polar compounds.
- H2) Zhu et al., J. Chromatogr. 548 (1991) 13. Peptide HILIC on PolyHYDROXY-ETHYL A and PolySULFOETHYL A (same ref. as S16).
- H3) Fainsilber et al., Eur. J. Biochem. 202 (1991) 589. **Size-Exclusion HPLC** of a **conotoxin** peptide.
- H4) Andrews & Alpert, Poster #110, 10th ISPPP (10/90) **Size-Exclusion HPLC** of small solutes.
- H5) Pike et al., Proc. Natl. Acad. Sci. 88 (1991) 11081. Lactic acid stimulates B-cell growth.
- H6) Przysiecki et al., Protein Expression Purif. 3 (1992) 185. HILIC, SEC, and SCX of recombinant **antistasin** with a preproleader sequence (same ref. as S18).
- H7) Swiderek et al., Poster #M93, Protein Society Symp. (7/92). Isoln. of **carcinoembryonic antigen glycopeptides** by HILIC, with mass

- H8) Boutin *et al.*, J. Chromatogr. **583** (1992) 137. spec. sequencing.  
HILIC of **phosphorylated peptides** and **tyrosine kinase** reaction mixtures.
- H9) Fong *et al.*, Plant Physiol. **99** (1992) 548. SEC of gymnosperm Ser-Hyp4 motif protein (same ref. as S26).
- H10) Hogrefe *et al.*, Nucl. Acids Res. **21** (1993) 2031. HILIC of **methylphosphonate oligonucleotides**.
- H11) Bickel *et al.*, Proc. Natl. Acad. Sci. **90** (1993) 2618. Purif. of **biotinylated VIP** analog.
- H12) Horst *et al.*, EMBO Journal **12** (1993) 3035. HILIC of mitochondria proteins from **SDS-PAGE** gel bands.  
**Removal of SDS** from proteins via capillary HILIC.
- H13) Clauser and Burlingame, Poster M286, Protein Society Symp. (7/93)
- H14) Boutin *et al.*, Drug Metab. Disp. **21** (1993) 1157. HILIC of **glucuronides** of diosmetin.
- H15) Barret *et al.*, Chem.-Biol. Interact. **86** (1993) 17. Assay of **ATPase** activity by HILIC.
- H16) Jenö *et al.*, Anal. Biochem. **215** (1993) 292. Removal of **SDS and salts** from **electroeluted** proteins.
- H17) Soltysik *et al.*, Ann. NY Acad. Sci. **690** (1993) 392. Purif. of **saponins** by HILIC.
- H18) Alpert *et al.*, J. Chromatogr. A **676** (1994) 191. **PolyGLYCOPLEX** for HILIC of **complex carbohydrates**.
- H19) Swiderek *et al.*, Poster 268-M, Protein Society Symp. (7/94). HILIC for removal of SDS, Triton X-100, and Nonidet P40 from peptides on-line for LC-MS.
- H20) Alpert *et al.*, Poster 269-M, Protein Society Symp. (7/94). HILIC of intact proteins.
- H21) Harwig *et al.*, Meth. Enzymol. **236** (1994) 160. Purif. by HILIC of **defensins**.
- H22) Ernould *et al.*, Int. J. Peptide Protein Res. **43** (1994) 496. HILIC of **phosphorylated peptides** from **tyrosine kinase** reactions.
- H23) Taylor *et al.*, J. Am. Chem. Soc. **116** (1994) 10803. Isoln. of **dihydroxyproline** from mussel adhesive protein.
- H24) Silvestre *et al.*, J. Agric. Food Chem. **42** (1994) 2778. Fractionation of **casein hydrolyzates** by SEC.
- H25) Silvestre *et al.*, J. Agric. Food Chem. **42** (1994) 2783. Characterization by SEC of **casein hydrolyzates**.
- H26) Shushan, Perkin-Elmer "Views", Fall 1994, SEC desalting of proteins for ESI-MS.

16-17.

- H27) Furuya *et al.*, Proc. Natl. Acad. Sci. **92** (1995) 12323. Isoln. by RPC/HILIC of a diuretic hormone polypeptide from mealworm (*T. molitor*).
- H28) Kieliszewski *et al.*, J. Biol. Chem. **270** (1996) 2541. HILIC of hydroxyproline-rich glycopeptides from Douglas Fir, with MS to determine sites of arabinoside attachment.
- H29) Sarg *et al.*, Chromatographie **1/95** (1995) 50. HILIC of **histones** (using PolyCAT A).
- H30) Oyler *et al.*, J. Chromatogr. A **724** (1996) 378. HILIC of diastereomers of atosiban.
- H31) Pauly *et al.*, Carbohydr. Res. **282** (1996) 1. HILIC of nitrobenzyl- derivs. of oligosaccharides on PolyGLYCOPLEX.
- H32) Horst *et al.*, Meth. Enzymol. **260** (1995) 232. Isoln. of yeast mitochondrial membrane proteins from 2-D gels by HILIC.
- H33) Lindner *et al.*, J. Chromatogr. A **743** (1996) 137. HILIC of acetylated **histones** (using PolyCAT A).
- H34) Nelson *et al.*, Exp. Cell Res. **229** (1996) 20. Isoln. of a **hepatic growth stimulator** by SEC; it's glycerophosphorylethanolamine.
- H35) Lindner *et al.*, J. Chromatogr. A **782** (1997) 55. HILIC of phosphorylated **histones** (using PolyCAT A) [same ref. as C64].
- H36) Swiderek *et al.*, ABRF News **8(4)** (1997) 17. Analysis of protein and peptide samples that contain detergents.
- H37) Lane *et al.*, J. Cell Biol. **125** (1994) 929. Analysis of the peptides GHK and KGHK in digests of SPARC protein.
- H38) Swiderek *et al.*, Meth. Enzymol. **271** (1996) 68. Separation of glycopeptides from digest of carcinoembryonic antigen by RPC-HILIC.
- H39) Mant *et al.*, Meth. Enzymol. **289** (1997) 426. CEX-HILIC of peptides (using PolySULF. A).
- H40) Schmerr *et al.*, J. Chromatogr. A **802** (1998) 125. Purif. and analysis of the **scrapie prion** protein (using PolyWAX LP) [same ref. as W5].
- H41) Lindner *et al.*, J. Biol. Chem. **273** (1998) 13324. HILIC of **deamidation** and acetylation variants of **H1 histone** (using PolyCAT A).
- H42) Strege, Anal. Chem. **70** (1998) 2439. HILIC-ES-MS of small polar compounds in **drug discovery screens**.
- H43) Zhang and Wang, J. Chromatogr. B **712** (1998) 73. HILIC of coeluting **glycopeptides** from an RPC map of a tryptic digest of recombinant  $\gamma$ -interferon from a CHO cell culture.

- H44) Faull et al., Neuropeptides 32 (1998) 339. RPC-HILIC-CEX isolation of  $\gamma$ -lipotropin and  $\beta$ -endorphin from rat pituitary.
- H45) Mant et al., J. Chromatogr. A 816 (1998) 65. CEX-HILIC detects substitutions on the polar face of amphipathic  $\alpha$ -helical peptides; RPC, the nonpolar face (PolySULF. A used).
- H46) Mant et al., J. Chromatogr. A 816 (1998) 79. CEX-HILIC vs. RPC for separation of variants of cyclic peptides (Gramicidin S analogs) (PolySULF. A used).
- H47) Alpert, Size Exclusion HPLC of Small Solutes in Column Handbook for Size Exclusion Chromatography (C.-S. Wu, ed.), Academic Press, 1999. Explains the principles and gives applications.
- H48) Strege, Am. Pharmaceut. Rev. 2 (1999) 53. HILIC-MS combination for drug discovery.
- H49) Litowski et al., J. Pept. Res. 54 (1999) 1 HILIC-CEX can resolve peptides that vary in position of Ser- acetylation (PolySULF. A used).
- H50) Croes et al., Poster 134, 47<sup>th</sup> ASMS Conference (June 1999; Dallas) HILIC of underivatized amino acids in seeds with MS/MS detection; run time of 6 minutes.
- H51) Dahiyat and Mayo, Proc. Natl. Acad. Sci. 94 10172. SEC of designed proteins @ packing interactions.
- H52) Serrano et al., J. Biol. Chem. 270 (1995) 27244. HILIC with PolyGLYCOPLEX of the carbohydrates from a GPI anchor of *Trypanosoma cruzi*.
- H53) Ke et al., J. Biol. Chem. 272 (1997) 16603. HILIC of small, polar peptide products from **t-PA** and **urokinase** substrate cleavage.
- H54) Ke et al., J. Biol. Chem. 272 (1997) 20456. HILIC of small, polar peptide products from a high-affinity **urokinase** substrate library.
- H55) Kisselev et al., J. Biol. Chem. 273 (1998) 1982. SEC of peptides generated by degradation of model proteins by **archaeal proteasomes**.
- H56) Kisselev et al., J. Biol. Chem. 274 (1999) 3363. SEC of peptides generated by degradation of model proteins by **mammalian proteasomes**.
- H57) Dallet et al., J. Chromatogr. B, 742 (2000) 447. HILIC of urea, allantoin, and lysine pyroglutamate in cosmetics.
- H58) Strege et al., Anal. Chem. 72 (2000) 4629. HILIC of small molecules with coupled anion- and cation-exchange columns.
- H59) Mizzen et al., J. Chromatogr. B, 744 (2000) A. Sepn. of **Histone H1** variants by HILIC on PolyCAT

H60) Hindi-Tamelihecht et al., J. Agric. Food Chem. SEC analysis of peptide size in chickpea protein hydrolyzates.  
45 (1997) 4758.

PAPERS ON PolyPROPYL-, -ETHYL, and -METHYL Aspartamide<sup>tm</sup>

SUBJECT

- P1) Lachman et al., Meth. Enzymol. 116 (1985) 467. Purif. of **Interleukin-1** with PolyPROPYL A.
- P2) Alpert, J. Chromatogr. 359 (1986) 85. Prepn. and use of PolyPROPYL-, -ETHYL, and -METHYL A.
- P3) Wetlaufer and Koenigbauer, J. Chromatogr. 359 (1986) 55. Hydrophobic-Interact. Chromat. (HIC) of proteins using surfactants.
- P4) Yu and Glazer, J. Biol. Chem. 262 (1987) 17543. Purif. of **tyrosine kinase** from HL-60 cells.
- P5) Alpert, BioChromatography 2 (1987) 131. Peptide HPLC: HIC vs. RPC.
- P6) Alpert, J. Chromatogr. 444 (1988) 269. Peptide HPLC; HIC vs. RPC.
- P7) Benedek, J. Chromatogr. 458 (1988) 93. HIC of lactalbumin: Denaturation and retention vs. temp. and stationary phase.
- P8) Rosenstreich et al., J. Exp. Med. 168 (1988) 1767. Purif. of an **interleukin-1** inhibitor.
- P9) Wu et al., J. Chromatogr. 500 (1990) 595. Assay of recombinant **human growth hormone** with various columns.
- P10) Meyer et al., Biochem. J. 274 (1991) 409. Purif. of a new class (Theta) of glutathione transferases.
- P11) Retzios & Markland, Biochemistry 31 (1992) 4547. Purif. of fibrinolytic enzymes from rattlesnake venom.
- P12) Trikha et al., Thrombosis Res. 73 (1994) 39. Purif. of platelet aggregation inhibitors from snake venoms.
- P13) Loayza et al., J. Chromatogr. B 662 (1994) 227. Resoln. of isoforms of fibrinolytic enzyme from copperhead snake venom.
- P14) Welinder et al., Anal. Chem. 67 (1995) 39A. Systematic study of column variability in HPLC of **human growth hormone** derivative with PolyPROPYL A and other columns.
- P15) Retzios et al., Protein Exp. Purif. 1 (1990) 33. Purif. of fibrinolytic enzymes from copperhead snake venom.
- P16) Ellis et al., Blood Coag. Fibrinol. 4 (1993) 537. Isoln. of **fibrinolytic fragments** D-dimer, D<sub>1</sub> & E with PolyETHYL A.

- P17) Mikolajczyk et al., Bioconjugate Chem. 5 (1994) 636. Purif. of derivs. of  $\beta$ -lactamase and a murine **Fab'** antibody fragment.
- P18) Kumar et al., Cancer Res. 57 (1997) 3111. Sepn. of **prostate-specific antigen** from its pro- form after conversion by kallekrein.
- P19) Mikolajczyk et al., Urology 50 (1997) 710. Sepn. of **prostate-specific antigen** from several pro- forms and PSA-ACT complex.
- P20) Mikolajczyk et al., Eur. J. Biochem. 246 (1997) 440. Sepn. of **prostate-specific human kallekrein 2** from its pro- form.
- P21) Woodrum et al., Clin. Chem. 43 (1997) 1203. Purif. of **prostate-specific antigen** from seminal plasma for use in an immunoassay.
- P22) Mikolajczyk et al., Urology 55 (2000) 41. Isoln. of a clipped **PSA** variant (**BPSA**) correlated with benign prostate disease.
- P23) Mikolajczyk et al., Cancer Res. 60 (2000) 756. Correlation of **proPSA** with prostate cancer.
- P24) Wang et al., Eur. J. Biochem. 267 (2000) 4040. Antibodies to **BPSA** and **PSA** don't crossreact well.
- P25) Mikolajczyk et al., The Prostate 45 (2000) 271. Identification of **BPSA** in seminal plasma.

#### PAPERS ON PolyWAX LP<sup>tm</sup>

- W1) Alpert and Regnier, J. Chromatogr. 185 (1979) 375. Preparation of the precursor of PolyWAX LP for anion-ex. HPLC of proteins.
- W2) Baxter et al., J. Biol. Chem. 264 (1989) 11843. Purif. of acid-labile subunit (ex human serum) from **insulin-like growth factor** binding complex.
- W3) Ronk et al., Tech. Protein Chem. 5 (1994) 259. Anion-exchange of proteins with packed capillaries.
- W4) Baxter and Dai, Endocrinology 134 (1994) 848. Purif. of acid-labile subunit (ex rat serum) from **insulin-like growth factor** binding complex.
- W5) Schmerr et al., J. Chromatogr. A 802 (1998) 135. Purif. and analysis of the **scrapie prion** protein (same ref. as H40).

#### PAPERS ON PolySULFOETHYL Aspartamide<sup>tm</sup>

- S1) Alpert and Andrews, J. Chromatogr. 443 (1988) 85. Description of **PolySULFOETHYL A** and SCX of peptides.
- S2) Crimmins et al., J. Chromatogr. 443 (1988) 63. SCX of peptides.
- S3) Andrews, Peptide Res. 1 (1988) 93. Ion-exchange HPLC of peptides.

#### SUBJECT

#### SUBJECT

- S4) Crimmins et al., Biochem. Biophys. Res. Commun. **156** (1988) 910. SCX analysis of deblocking of N-terminal pyroGlu- peptides.
- S5) Crimmins et al., Anal. Biochem. **176** (1989) 255. Peptide mapping of **V8 digests** by SCX.
- S6) Schlabach et al., Techniques in Protein Chem. **1** (Academic Press; 1989), 497. Peptide mapping of **ASP-N digest**.
- S7) Crimmins, Peptide Res. **2** (1989) 395. SCX of **disulfide-linked peptides**.
- S8) Kolbe et al., J. Chromatogr. **476** (1989) 99. Purif. of recombinant **p18 protein** from HIV-1 virus.
- S9) Andrews, Current Res. Protein Chem. (Academic Press; 1990) 95. Selective isolation of **disulfide-linked peptides** from tryptic digests.
- S10) Iadarola et al., J. Chromatogr. **512** (1990) 165. Albumin variant digests by CNBr, trypsin, and V8; SCX vs. RPC.
- S11) Sandy et al., J. Biol. Chem. **265** (1990) 21108. Isoln. of **disulfide-linked peptides** from aggregating cartilage proteoglycan.
- S12) Guarino and Phillips, Amer. Lab. **23** (1991) 68. SCX-HPLC of peptides as a prepar. adjunct to CZE.
- S13) Swiderek et al., Eur. J. Biochem. **190** (1990) 575. V8 digest of **Troponin T**; mapping sites of phosphorylation.
- S14) Alpert, HPLC of Peptides and Proteins (Mant & Hodges, eds.) (CRC Press; 1991) 187. IEX of peptides.
- S15) Crimmins, Techniques in Protein Chem. III (Academic Press; 1992) 171. SCX vs. CZE of synthetic peptides.
- S16) Zhu et al., J. Chromatogr. **548** (1991) 13. HILIC of peptides (same ref. as H2)
- S17) Zhu et al., J. Chromatogr. **594** (1992) 75. SCX-HILIC of peptides vs. RPC.
- S18) Przysiecki et al., Protein Expression Purif. **3** (1992) 185. Purif. of recombinant **antistasin** with a preproleader sequence (same ref. as H6).
- S19) Clogston et al., Anal. Biochem. **202** (1992) 375. Analysis of **rG-CSF isoforms**.
- S20) Schmeltzer et al., J. Neurochem. **59** (1992) 1675. Isoln. & anal. of **rh-Nerve Growth Factor**.
- S21) Hempel et al., Comp. Biochem. Physiol. **102B** (1992) 791. SCX of tryptic digest of human liver glutamic  $\gamma$ -Semialdehyde Dehydrogenase.
- S22) Churchill et al., Biochemistry **31** (1992) 3793. SCX of tryptic digest of rat liver D- $\beta$ -hydroxybutyrate dehydrogenase.
- S23) Moore et al., Proc. Natl. Acad. Sci. **90** (1993) 1354. Isoln. of **squalamine** (a steroidal antibiotic)

- S24) Kieliszewski et al., Plant Physiol. **98** (1992) 919. Purif. of hydroxyproline-rich glycoprotein from Douglas fir.
- S25) Kieliszewski et al., Plant Physiol. **99** (1992) 538. Purif. of His- rich, arabinogalactan protein from corn (maize).
- S26) Fong et al., Plant Physiol. **99** (1992) 548. Purif. of gymnosperm protein with serine- tetrahydroxyproline motif.
- S27) Longo et al., Cell Regulation **1** (1990) 189. Purif. of synthetic peptide fragments of **Nerve Growth Factor** which inhibit NGF.
- S28) Hisatsune et al., Biosci. Biotech. Biochem. **56** (1992) 1616. Purif. of a CNBr digest of casein.
- S29) Nichols, Molec. Cell. Neurosci. **3** (1992) 342. Isolation of *Drosophila* Drosulfakinin Neural Peptide gene product, DSK-1.
- S30) Nichols, J. Mol. Neurosci. **3** (1992) 213. Isolation of *Drosophila* neural peptides.
- S31) Tanasijevic et al., J. Biol. Chem. **268** (1993) 18157. Isoln. of phosphorylated fragments of **Insulin Receptor Substrate (IRS-1)**.
- S32) Dolmer and Sottrup-Jensen, FEBS Letters **315** (1993) 85. Isoln. of **disulfide-linked** peptides from human complement component C3b.
- S33) Gorman and Shiell, J. Chromatogr. **646** (1993) **blocked** 193. Selective isoln. of **C-terminal** and **N-terminal peptides** from viral proteins.
- S34) Dong et al., J. Biol. Chem. **269** (1994) 6753. Determination of **disulfide bonds** in **von Willebrand Factor** multimers.
- S35) Walker, Poster 272-T, Protein Society Symp. (7/94). Assay of **Growth Hormone-Releasing Factor** by mixed **SCX-HILIC**.
- S36) Crimmins, Meth. Mol. Biol. **36** (1994) 53. SCX in synthetic peptide analysis.
- S37) Hempel et al., Protein Sci. **3** (1994) 1074. Purif. of peptides for sequencing from digest of UDP-glucose dehydrogenase.
- S38) Crimmins et al., Anal. Biochem. **226** (1995) 355. Disulfide-linked peptides; SCX & MALDI-MS.
- S39) Fang et al., J. Chromatogr. A **729** (1996) 49. Effect of temperature on protein retention times in cation-exchange.
- S40) Fang et al., J. Chromatogr. A **729** (1996) 67. Effect of temperature on protein bandwidth in cation-exchange.
- S41) Smith and Hanly, in Irvine and Williams (eds.), *Neuropeptide Protocols* (Methods in Molec. Biol. vol. 73), Humana Press Inc., Totowa, NJ, 1996, pg. 75. a) Protocol for SCX of peptides; b) Purif. of crude synthetic Calcitonin Gene-Related Peptide (8-37).

- S42) Joyal *et al.*, Biochemistry **35** (1996) 6267. Identification of phosphorylation sites in calmodulin.
- S43) Bendixen *et al.*, J. Biol. Chem. **270** (1995) 17929. Isoln. of plasminogen fragments covalently linked ( $\gamma$ -Glu  $\rightarrow$   $\epsilon$ -Lys) by transglutaminase treatment.
- S44) Mant & Hodges, Meth. Enzymol. **271** (1996) 3. SCX of peptides: Hydrophilic & hydrophobic mixed-mode effects.
- S45) Yarus *et al.*, Proc. Natl. Acad. Sci. **93** (1996) 14118. Purif. of bovine **tracheal antimicrobial peptide** (a  $\beta$ -defensin) from transgenic mouse milk.
- S46) Cole *et al.*, J. Biol. Chem. **272** (1997) 12008. Isoln. of **pleurocidin**, an antimicrobial peptide from flounder skin.
- S47) Crimmins, Anal. Chim. Acta **352** (1997) 21. SCX-HPLC as a tool for characterization and purif. of peptides.
- S48) Link *et al.*, Nature Biotechnol. **17** (1999) 676. **Proteome analysis:** SCX-RPC capillaries for direct **MS/MS** analysis of protein complexes.
- S49) Tseng *et al.*, J. Biol. Chem. **271** (1996) 23992. Purif. of human type II **phospholipase A2** from CHO cells (SCX-RPC sequence) .
- S50) John *et al.*, Proc. Natl. Acad. Sci. **94** (1997) 10178. Isoln. via SEC-SCX-RPC of a 17-residue peptide mediating glycolipid-induced tobacco protoplast proliferation *in vitro*.
- S51) Louie and Meade, Proc. Natl. Acad. Sci. **95** (1998) Purif. of cobalt complexes of **zinc finger** peptides.
- S52) Giblin *et al.*, Proc. Natl. Acad. Sci. **95** (1998) 12814. Purif. of complex of **rhenium** with a **-MSH**.
- S53) Hekman *et al.*, Pharm. Res. **15** (1998) 650. Isoln. and ident. of degradation products of **pramlintide** (an amylin analog).
- S54) Hekman *et al.*, J. Pharm. Biomed. Anal. **20** (1999) 763. Isoln. and ident. of **cyclic imide** and **deamidation** products of **pramlintide**.
- S55) Ayad *et al.*, J. Dental Res. **79** (2000) 976. Isoln. of 19 basic, proline-rich peptides from human saliva; relationship to dental decay.
- S56) Gygi *et al.*, Proc. Natl. Acad. Sci. **97** (2000) 9390. **Proteomics tools:** Analysis of 2-D gel spots of yeast proteins using a trypsin-SCX-RPC-MS/MS sequence.
- S57) Davis *et al.*, Poster 196, 48<sup>th</sup> ASMS Conference (June 2000) **Proteomics** analyses using a SCX-RPC-MS/MS setup.
- S58) Gygi *et al.*, Nat. Biotechnol. **17** (1999) 994. Introduction of **ICAT** (Isotope-Coded Affinity

mixtures.

Tags) for analysis of complex protein

S59) Gygi et al., Curr. Opin Biotechnol. 11 (2000) 396. Review of **ICAT** and **proteomics**.