

14th Annual PEGS Summit Boston 2018

The Essential Protein Engineering Summit

Abstracts

Boston, Massachusetts, USA
30 April - 4 May 2018

ISBN: 978-1-5108-7810-5

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2018) by Cambridge EnerTech
All rights reserved.

Printed with permission by Curran Associates, Inc. (2020)

For permission requests, please contact Cambridge EnerTech
at the address below.

Cambridge EnerTech
Cambridge Innovation institute
250 First Avenue
Suite 300
Needham, MA 02494
USA

Phone: 781-972-5400
Fax: 781-972-5425

ce@cambridgeenertech.com

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

ACCELERATE KINETIC SCREENING AND EPITOPE CHARACTERIZATION OF ANTIBODY LIBRARIES WITH ARRAY SPR	1
<i>Y. Abdiche</i>	
IMMUNOPROTEOGENOMICS FOR DISCOVERING RABBIT MONOCLONAL ANTIBODIES	2
<i>S. Bonissone, K.E. Harris, N.D. Trinklein, N. Castellana</i>	
CONDITIONAL INTERNALIZATION OF PEGYLATED NANOMEDICINES BY PEG ENGAGERS FOR TRIPLE NEGATIVE BREAST CANCER THERAPY	3
<i>Y.C. Su, P.A. Burnouf, K.H. Chuang, B.M. Chen, T.L. Cheng, S.R. Roffler</i>	
THE JOURNEY TO "THE" ANTIBODY: ACCESSING A VERSATILE TOOLBOX.....	4
<i>D. Teixeira, J. Assuncao, I. Toth, F. Martins, A. Barroso, M. Gonzalez-Pajuelo, J. Santos, D. Ramos, J. Queiroz, D. Pinto, A. Kelly</i>	
OPTIMIZING RECOMBINANT ANTIBODY PRODUCTION WORKFLOWS.....	5
<i>K. Tran, A. Bauer, W. Zhang</i>	
SEQUENCE-BASED DISCOVERY AND META-ANALYSIS DEMONSTRATES THAT FIXED LIGHT CHAIN HUMAN TRANSGENIC RATS PRODUCE A DIVERSE REPERTOIRE OF ANTIGEN-SPECIFIC ANTIBODIES	6
<i>N.D. Trinklein, K.E. Harris, L.M. Davison, H.A.N. Ogana, A. Boudreau, M. Bruggemann, M. Osborn, B. Ma, D.T. Pham, U.S. Rangaswamy, U. Schellenberger, W.C. Van Schooten, O. Vafa, R. Buelow</i>	
A POLAR SULFAMIDE SPACER SIGNIFICANTLY ENHANCES THE MANUFACTURABILITY, STABILITY, AND THERAPEUTIC INDEX OF ANTIBODY-DRUG CONJUGATES	7
<i>S. Van Berkel, J.M.M. Verkade, M.A. Vijdeven, R. Van Geel, B.M.G. Janssen, F.L. Van Delft</i>	
METABOLIC INCORPORATION OF A FLUORESCENT AMINO ACID INTO PROTEINS OF INTEREST FOR LIVE-CELL IMAGING	8
<i>A.J. Vincelli, A. Adomah, M. Korkoyah, Z. Liu, X. Niu, M. Guo</i>	
A NOVEL BISPECIFIC ANTIBODY TO CD47/PDL1 (BCD-106)	9
<i>A. Vladimirova, A. ulitin, T. Nemankin, V. Solovyev, A. Misorin, G. Zhirivskaia, I. Ustiugov, R. Ivanov</i>	
AT1412: A PATIENT-DERIVED ANTIBODY TARGETING THE TETRASPANIN CD9 INHIBITS TUMOR PROGRESSION BY STIMULATING THE INFLUX OF IMMUNE CELLS.....	10
<i>K. Wagner, R. Schotte, E. Verdegaal, J. Villaudy, D. Go, C. Fatmawati, C. Bru, P. Van Helden, S.V.D. Burg, H. Spits, W. Pos</i>	
PROXIMITY-BASED SORTASE-MEDIATED LIGATION.....	11
<i>H.H. Wang, B. Altun, K. Nwe, A. Tsourkas</i>	
INDUSTRIALIZING IO THERAPEUTIC DISCOVERY PLATFORMS: MULTISPECIFICS, ENGINEERED TCRS AND CARs.....	13
<i>M. Wendt, G. Cappuccilli, C. Bruder, C. Smith, K. Maillard, H.P. Fischer</i>	
ALLOSTERY COMMUNICATIONS IN FUSION TWO-DOMAIN PROTEINS.....	14
<i>K. Bousova, K. Tripsianes, J. Teisinger, J. Vondrasek</i>	

PERKINELMER'S PROTEINEXACT™ ASSAY FOR HIGH-THROUGHPUT, HIGH- PRECISION PROTEIN QUANTITATION.....	15
<i>J. White, Z. Peng, R. Gelineau, A. Tripathi, B. Gerwe, E. Miller</i>	
ENTERPRISE MASS SPECTROMETRY SOFTWARE SOLUTION ENABLING CHARACTERIZATION OF BIOTHERAPEUTICS FROM DISCOVERY AND DEVELOPMENT TO PRODUCTION AND QUALITY CONTROL.....	16
<i>C. Wigmore, J. Shambaugh, D. Bush, A. Tartiere, N. DeGraan-Weber, P. Haberl</i>	
PHAGE DISPLAY TECHNOLOGY AT UCB: ONGOING INNOVATION OF A MATURE DISCOVERY AND ENGINEERING PLATFORM	17
<i>M. Wright, A. Scott-Tucker, A. Spiliotopoulos, L. Starkie, C. Grice, J. Snowden, M. Wright</i>	
MONOCLONAL ANTIBODY AS THERAPEUTICS AGAINST EMERGING INFECTIOUS DISEASES	18
<i>Y. Wu, T. Ying</i>	
CHARACTERIZATION OF POTENT RSV NEUTRALIZING MABS ISOLATED FROM HUMAN MEMORY B CELLS	19
<i>X. Xiao, K. Cox, A. Tang, N. Sullivan, J. Galli, Z. Wen, S. Cosmi, D. Nahas, J. Cook, H. Su, K. Babaoglu, S. Soisson, A. Bett, K. Vora, L. Zhang, Z. Chen</i>	
PROTIA (PROTEASE TRIGGERED IMMUNE ACTIVATOR) WIDENS THE THERAPEUTIC WINDOW OF BISPECIFIC T-CELL ENGAGERS.....	20
<i>F. Yang, B.C. Sim, B. Liu, D. Thayer, C. Wang, K. Young, L. Chen, V. Vu, C.W. Wang, V. Podust, U. Ernst, V. Schellenberger</i>	
GENERATION OF ANTI-IDIOTYPIC ANTIBODIES AGAINST BIOTHERAPEUTICS USING HUCAL	21
<i>F. Ylera, C. Hentrich, S. Harth, A.T. Haaf, A. Knappik</i>	
DEVELOPING A FUSION PROTEIN PLATFORM TO IMPROVE BLOOD-BRAIN BARRIER TRANSCYTOSIS OF IMMUNOGLOBULIN G THERAPEUTICS	22
<i>F. Zappala, A. Tsourkas</i>	
GENERATION OF NOVEL ANTI-CLDN18.2 MONOCLONAL ANTIBODIES AS THERAPIES FOR GASTRIC AND PANCREATIC CANCER.....	24
<i>R. Zhang, H. Lin, A. Wong, L. Ruslim, W. Zuo, H. Li</i>	
AUTOMATED DE NOVO SEQUENCING OF ANTIBODIES WITH ISOLEUCINE/LEUCINE DIFFERENTIATION BY USING ETHCD	25
<i>W. Zhang, L. He, L. Xin, J. Krieger, P. Taylor, B. Shan</i>	
AUTOMATED PARTICLE COUNT ANALYSIS TO OPTIMIZE PROTEIN FORMULATION TO MINIMIZE AGGREGATION AND PERFORM USP 787 SUBVISIBLE PARTICULATE MATTER TESTING	26
<i>M. Bumiller</i>	
AN EFFICIENT METHOD FOR THE DETERMINATION OF TRACE EXCIPIENT IMPURITIES IN BIOTHERAPEUTIC DRUG PRODUCTS CONTAINING POLYSORBATE	27
<i>X. Zhang, R. Birdsall, Y.Q. Yu</i>	
MONITORING CRITICAL QUALITY ATTRIBUTES SUPPORTING DEVELOPMENT OF BIOLOGICS.....	28
<i>Y. Zhang, S. McCarthy, K. Pohl, A. Uppal, S. Heidelberger</i>	

IDENTIFICATION OF ADENO-ASSOCIATED VIRUS CAPSID PROTEINS USING ZIPCHIP CE/MS.....	29
<i>Y. Zhang, Y. Wang, Z. Sosic, L. Zang, S. Bergelson, W. Zhang</i>	
THERAPEUTIC ANTIBODY MS17-38 INTERACTS WITH PODXL-V2 TO DEFINE THE BIOMARKER OF GASTRIC CANCER.....	30
<i>P. Zhao, Q. Ma, K. Wei, H.J. Yue, M.Q. Xu, M. Lu</i>	
COMPUTATIONAL DESIGN OF EPITOPE-SPECIFIC HIGHLY DEVELOPABLE ANTIBODIES	31
<i>L. Zimmerman</i>	
MULTI-PARAMETER HIGH-THROUGHPUT ANTIBODY DEVELOPABILITY SCREENING BY MAMMALIAN DISPLAY.....	33
<i>N. Butt, K. Parthiban, E. Masters, J. Syrjanen, R. Perera, M. Sattar, R. Leah, M.R. Dyson, J. McCafferty</i>	
DISCOVERY OF HIGHLY-SPECIFIC CLAUDIN 6 ANTIBODIES FOR TARGETING CANCER.....	34
<i>R. Chambers</i>	
INVESTIGATING THE EFFECTS OF PRE-EXISTING ANTI-PEG ANTIBODIES ON MIRCERA.....	35
<i>T.C. Chang, M.B. Chen, T.L. Cheng, S.R. Roffler</i>	
HIGH-RESOLUTION EPITOPE MAPPING REVEALS ANTIBODY MECHANISM OF ACTION AND STRENGTHENS INTELLECTUAL PROPERTY	36
<i>T. Charpentier</i>	
NON-COVALENT MODIFICATION OF MPEGYLATED NANOPARTICLES BY HUMANIZED BISPECIFIC ANTIBODIES FOR SELECTIVE THERAPY	37
<i>T.L. Cheng, Y.A. Cheng, C.H. Kao</i>	
STRUCTURAL DYNAMIC ANALYSIS OF CGRX AND VARIANT USING HYDROGEN- DEUTERIUM EXCHANGE MASS SPECTROMETRY	38
<i>S. Choi, W.K. Lee, I.Y. Ko, K. Lee, K.Y. Hwang, J. Woo</i>	
DEVELOPMENT OF A PROTEASE-ACTIVATED ANTIBODY THAT REDUCES THE SIDE- EFFECTS OF RHEUMATOID ARTHRITIS (RA) THERAPY	39
<i>C.H. Chuang, T.L. Cheng, C.H. Chuang</i>	
ALTHEA GOLD LIBRARIES™: NOVEL ANTIBODY LIBRARIES FOR THERAPEUTIC ANTIBODY DISCOVERY	40
<i>J.C. Almagro, P. Valadon, S.M. Perez-Tapia, R.S. Nelson, O.U. Guzman-Bringas, H.I. Arrieta-Oliva, K.M. Gomez-Castellano, M.A. Poh</i>	
REPRODUCIBLE MOA-REFLECTING REPORTER-BASED BIOASSAYS TO ENABLE DRUG DEVELOPMENT OF BIOSIMILARS AND BIOBETTERS	41
<i>M. Cong, R. Moravac, D. Li, J. Wilkinson, F. Fan</i>	
A SUSTAINED-RELEASE BIOPOLYMER-IMMUNOTOXIN FUSION FOR TREATMENT OF BRAIN TUMORS.....	42
<i>S. Costa, V. Chandramohan, D.D. Bigner, A. Chilkoti</i>	
HCDR3 DIVERSITY: NECESSARY, BUT NOT SUFFICIENT FOR SPECIFIC ANTIBODY BINDING	43
<i>S. D'Angelo, M.F. Erasmus, F. Ferrara, L. Naranjo, P. Hraber, A. Bradbury</i>	

FUNCTIONAL INTERROGATION AND MINING OF NATIVELY PAIRED HUMAN VH:VL LIBRARIES	44
<i>B.J. DeKosky, B. Wang, M.R. Timm, J. Lee, E. Normandin, J. Misasi, R. Kong, J.R. McDaniel, G. Delidakis, K.E. Leigh, T. Niezold, C.W. Choi, E.G. Viox, A. Fahad, A. Cagigi, A. Ploquin, K. Leung, E.S. Yang, W.P. Kong, W.N. Voss, A.G. Schmidt, M.A. Moody, D.R. Ambrozak, A.R. Henry, F. Laboune, J.E. Ledgerwood, B.S. Graham, M. Connors, D.C. Douek, N.J. Sullivan, A.D. Ellington, J.R. Mascola, G. Georgiou</i>	
ANTIGEN ENGINEERING FOR ENHANCED IMMUNOGENICITY AND STABILITY	45
<i>A.M. DiVenere, F.H. Damron, J.A. Maynard</i>	
DEVELOPMENT AND CHARACTERIZATION OF A NOVEL ANTI-IL-6R ANTIBODY (BCD-089).....	47
<i>A. Doronin, S. Evdokimov, A. Ulitin, V. Solovyev, A. Aleksandrov, Y. Chernykh, V. Ekimova, O. Moskalyova, T. Nemankin, A. Vladimirova, V. Shitikova, O. Smotrov, D. Korzhavin, A. Sharoyko, V. Nalobina, I. Ustiugov, A. Lutckii, E. Chernyaeva, P. Yakovlev, R. Ivanov</i>	
MONITORING THE CRITICAL QUALITY ATTRIBUTES OF ANTIBODY DRUG CONJUGATES (ADCS) AS PART OF BIOSIMILAR DEVELOPMENT: CASE STUDIES OF ADO-TRASTUZUMAB EMTANSINE	48
<i>M. Du, H. Shion, Y.Q. Yu, L. Wang, K. Gao, W. Chen</i>	
USING CHO TARGETED INTEGRATION STABLE POOLS TO EXPRESS PROTEINS FOR RESEARCH	49
<i>G. Dutina</i>	
COMPUTATIONAL DRIVEN PROTEIN ENGINEERING PLATFORM ENABLES THE DISCOVERY AND DEVELOPMENT OF BIOLOGICS WITH REDUCED IMMUNOGENICITY	50
<i>Y. Fang, H. Zhao, D. Verma, W. Li, Y. Choi, S.N. Fiering, C. Bailey-Kellogg, K.E. Griswold</i>	
HARVESTMAX 1000: A SINGLE STEP STERILE FILTRATION OF CHO CELL CULTURES PRODUCING THERAPEUTIC PROTEINS.....	51
<i>P. Florez</i>	
COMBINATORIAL SCREENING OF YEAST DISPLAYED LIBRARIES USING YEAST DISPLAYED TARGETS.....	52
<i>K. Bacon, M. Burroughs, S. Menegatti, B. Rao</i>	
FLEXIBLE MULTIVALENT ANTIBODY DEVELOPMENT PLATFORM BASED ON HUMAN HEAVY CHAIN ANTIBODIES.....	53
<i>S.F. Aldred, S. Clarke, K. Dang, A. Boudreau, B. Buelow, L.M. Davison, K.E. Harris, S. Iyer, B. Jorgensen, H.A.N. Ogana, D.T. Pham, P. Pratap, U.S. Rangaswamy, U. Schellenberger, N.D. Trinklein, H. Ugamraj, O. Vafa, W.C. Van Schooten</i>	
DISCOVERY OF PROTEASE INHIBITORY MABS.....	54
<i>X. Ge</i>	
DISCOVERY OF NEW ANTIBODIES THAT TARGET AND TRANSPORT THE BLOOD-BRAIN BARRIER	55
<i>L. Goulatis, J. Georgieva, E. Shusta</i>	
CHARACTERIZATION OF USP OLIGOSACCHARIDE SYSTEM SUITABILITY MIXTURE A AND MIXTURE B REFERENCE STANDARDS.....	56
<i>J. Guo, H. Tu, E. Chang, F. Atouf</i>	

IMPROVING ERTS WITH CODEEVOLVER® PROTEIN ENGINEERING TECHNOLOGY TO IMPROVE PROTEIN STABILITY AND IN VIVO HALF-LIFE, AS WELL AS REDUCE IMMUNE RESPONSE	58
<i>W. Hallows, K. Skvorak, N. Agard, C. Chng, N. Dellas, M. Miller, J. Shen, J. Viduya, X. Zhang, C. Zhu, R. Schiffmann, G. Huisman</i>	
COMPARISON OF MANUAL PIPETTING VS. AUTOMATED LIQUID HANDLING PIPETTING INTO FLOWCAM 8100	59
<i>D. Hamel, B. Brown, J.P. Habumugisha, K.H. Roache-Johnson, B. Spaulding, H.A. Wright</i>	
METHOD DEVELOPMENT AND CASE STUDIES OF LARGE MOLECULE SEPARATIONS: SEC, HIC, MIXED-MODE AND CE-SDS	60
<i>M. Haverick</i>	
UNLOCKING CHALLENGING TARGETS: DEEP SCREENING OF NATURAL IMMUNE REPERTOIRES AT THE SINGLE-CELL LEVEL FOR THERAPEUTIC ANTIBODY DISCOVERY	61
<i>K. Heyries, K. Lisaingo, V. Lecault, D. Da Costa, S. Duncan, A. Moreira, M. Hamidi, E. Falconer, R. Walsh, M. Szabat, K. Herve, R. Bidshahri, K. Lam, C.L. Hansen</i>	
ARTIFICIAL CHAPERONE TECHNOLOGY FOR CONFORMATIONAL DISEASES	62
<i>A. Hishiya, K. Koya</i>	
PROTEIN PRODUCTION, KINETIC PROFILING AND X-RAY CRYSTALLOGRAPHY FOR BIOLOGICALS VERSUS SMALL MOLECULES DURING EARLY DRUG DISCOVERY - SIMILARITIES AND DIFFERENCES	63
<i>S. Hoppner, T. Hage, K. Maskos, S. Krapp, L. Neumann, C. Donat, I. Montenbruck</i>	
OPTIMIZATION FOR HETEROLOGOUS DISULFIDE BONDED PROTEIN MANUFACTURE: PRODUCTION OF ANTIBODY FRAGMENTS IN THE PERIPLASM AND CYTOPLASM OF E. COLI	64
<i>B. Ban, J. Shetty</i>	
DEVELOPING AN INTEGRATED SUMMARY OF IMMUNOGENICITY (ISI) TO EFFECTIVELY MANAGE REGULATORY RISKS IN PRODUCT DEVELOPMENT	66
<i>J.B. Holz</i>	
HUMAN ANTIBODIES FROM TRANSGENIC CHICKENS	67
<i>S. Izquierdo</i>	
EXPANDING THE GS XCEED® SYSTEM VECTOR TOOLKIT FOR COMPLEX RECOMBINANT PROTEIN EXPRESSION	68
<i>C. Jaques</i>	
ANTI-FOLR1 MONOCLONAL ANTIBODY CONJUGATE USING NEXMAB™ TECHNOLOGY	69
<i>R. Kim, S. Lee, H.S. Chung, S.J. Park</i>	
XCELLA MICROCAPILLARY PLATFORM ENABLES HIGH-THROUGHPUT FUNCTIONAL SCREENING OF ANTIBODY LIBRARIES	70
<i>R. Kelly, B. Chen, N. Mehta, S. Alford, C. Tahmin, J. Cochran</i>	
SELECTION OF MONOCLONAL ANTIBODIES TARGETING THERAPEUTIC MEMBRANE PROTEINS THROUGH A CELL-BASED PHAGE DISPLAY PANNING SYSTEM	71
<i>Y.J. Kim, B. Yoo, Y. Kim, K. Song, S.R. Lee, D. Kim</i>	

YUMAB - CUSTOM-MADE NATURAL AND FULLY HUMAN ANTIBODIES FOR DIAGNOSTICS AND THERAPY: A CASE STUDY	72
<i>L. Kirchner, P. Kuhn, A. Frenzel, J. Kuegler, T. Schirrmann</i>	
EXPLORATION OF PIGGYBACK AND BACMAM AS ALTERNATIVE TECHNOLOGIES TO IMPROVE EXPRESSION OF DIFFICULT TO EXPRESS PROTEINS	73
<i>M. Kornienko, P. Abeywickrema, L. Boots, N. Byrne, D. Hall, K. Hollenstein, J. Kostas, H. Krishnamurthy, J. Shipman, S. Soisson</i>	
NOVEL, IMPROVED CELL-BASED ASSAYS TO ENABLE IMMUNOTHERAPY DRUG DEVELOPMENT FOR CHECKPOINT RECEPTORS	74
<i>J.E. Lamerdin, H. Daino-Laizure, M. Nguyen, V. Liu, A. Prasad, J. Lin-Jones</i>	
BUILDING ROBUST AND SIMPLE CELL-BASED ASSAYS FOR INTERLEUKINS AND THEIR RECEPTORS.....	75
<i>J.E. Lamerdin, H. Dotimas, S. Gunthuri, H. Daino-Laizure, A. Prasad</i>	
NONINVASIVE DETECTION OF BLADDER CANCER BY THE UBC RAPID TEST, ULTRASONOGRAPHY AND CYTOLOGY	76
<i>V. Barak, D. Itzkovitch, R. Einarsson, D. Pode</i>	
SCREENING AND CHARACTERIZATION OF B7-H3-SPECIFIC HUMAN ANTIBODY	77
<i>H.J. Lee, J.C. Yoon, E.Y. Shim, Y. Ko, J.E. Park, S.H. Yoo, Y. Song, S.A. Choi, J. Lee, Y.C. Kim, D.J. Lee, K. Kim, J. Lim, G. Baek, J. Lee, J.C. Lim, B.C. Park, Y.G. Cho, Y.W. Park</i>	
RATIONAL ENGINEERING OF TARGETED ERYTHROPOIETIN FOR TREATMENT OF ANEMIA	78
<i>J. Lee, K. Redfield, A. Vernet, P. Silver, J. Way</i>	
V(D)J REARRANGEMENT IS DISPENSABLE FOR PRODUCING CDR-H3 SEQUENCE DIVERSITY IN A GENE CONVERTING SPECIES	79
<i>P. Leighton</i>	
HPN424, A HALF-LIFE EXTENDED, PSMA/CD3-SPECIFIC TRITAC FOR THE TREATMENT OF METASTATIC PROSTATE CANCER	80
<i>B. Lemon, W. Aaron, R. Austin, P.A. Baeuerle, A. Jones, S.D. Jones, K. Kwant, C.L. Law, A. Muchnik, K. Sexton, L. Tatalick, H. Wesche, T. Yu</i>	
A NOVEL PHENYL-BASED RPLC STATIONARY PHASE FOR HIGH THROUGHPUT, HIGH RESOLUTION CHARACTERIZATION OF PROTEIN THERAPEUTICS.....	82
<i>X. Liu, J. Nguyen, S. Rzewuski, Q. Wang, D. Walsh, J. Cook, M. DeLoffi, G. Izzo, Y. Xu, M.A. Lauber</i>	
GENERATION OF AGONIST AND ANTAGONIST HUMAN MONOCLONAL ANTIBODIES AGAINST AN IMMUNE CHECKPOINT TARGET FROM THE H2L2 MOUSE	83
<i>J.K. Lowitz, J.S. Kenney, G. Lin, R. Chang, J. Teplyuk, J. Somera, L. Santibanez-Vargas, C. Vo, E. Truong, B. Nguyen, G. Deng, Y. Rong, J. Zhao</i>	
INTEGRATED ANTIBODY DRUG DISCOVERY: FROM DRUG TARGETS TO FUNCTIONAL ANTIBODY LEADS.....	84
<i>B. Luan, L. Yin, S. Shao, D. Wang</i>	
TRACKING MEDIA, AGGREGATING ASSAY DATA, AND TRACKING LINEAGE OF EXPRESSION SYSTEM SAMPLES FOR BIOREACTOR RUNS, BOTH INDIVIDUALLY AND ACROSS MULTIPLE RUNS	85
<i>R. Luce, K. Krouse, N. Arnold, C. Joosse, J. Murray, R.R. Ketchem, J.A. Taylor, R.E. Williams</i>	

A NOVEL INTEGRATED END-TO-END WORKFLOW SYSTEM ENABLING INCREASED THROUGHPUT IN BIOPROCESS DEVELOPMENT	86
<i>A. Lynch, K. Maillard, C. Smith, G. Cappuccilli, H.P. Fischer, M. Wendt</i>	
ENHANCED CONCENTRATION RANGE AND SENSITIVITY FOR MAB STRUCTURAL CHARACTERIZATION USING MICROFLUIDIC MODULATION SPECTROSCOPY (MMS).....	87
<i>E. Ma, L. Wang</i>	
SCALABLE SEQUENCE DATA ANALYSIS FOR ACCELERATED PRECISION ANTIBODY DISCOVERY	88
<i>J. Bendtsen, O. Bodley, M. Kennington, T. Paulin, F. Stevens, B. Ammundsen, J. Smith, A. Lai, M. Kearse, C. Duran</i>	
PRODUCTION OF FUNCTIONAL ANTIBODIES IN THE CYTOPLASM OF ENGINEERED ESCHERICHIA COLI	89
<i>B. Manta, P.T. Reddy, M. Lenon, C.N. Ke, G. Ren, P. Riggs, Z. Kelman, M. Berkmen</i>	
AUTOMATED PROTEIN PURIFICATION USING HAMILTON STAR WITH VARIOUS WET RESINS TO ACHIEVE MINIATURIZED LABORATORY WORKFLOW WITH HIGH CONSISTENCIES	90
<i>M.S. Manter, T. Mullis, S. Hwang, A. Lee</i>	
VECTORIZATION IN AN ONCOLYTIC VACCINIA VIRUS OF ANTIBODIES AGAINST PROGRAMMED CELL DEATH -1 (PD-1) ALLOWS THEIR INTRATUMORAL DELIVERY AND AN IMPROVED TUMOR-GROWTH INHIBITION	91
<i>J.B. Marchand, P. Kleinpeter, L. Fend, C. Thiodellet, M. Geist, N. Sfrontato, V. Koerper, C. Fahrner, D. Schmitt, M. Gantzer, C. Remy-Ziller, R. Brandely, D. Villeval, K. Rittner, N. Silvestre, P. Erbs, L. Zitvogel, E. Quemeneur, X. Preville</i>	
PURESELECT2 - A NOVEL PHAGE DISPLAY PLATFORM FOR IN VITRO SELECTION OF THERAPEUTIC ANTIBODY FRAGMENTS	92
<i>M. Matusiewicz</i>	
AUTOMATED ANTIBODY ISOLATION USING MAGNETIC BEADS ATTACHED RECOMBINANT HUMAN PROTEIN(RHPROTEIN) FROM PHAGE DISPLAY LIBRARIES	93
<i>B.K. Min, M. Yoo, M.J. Cho, H. Park, Y. Yoon, D.H. Nam</i>	
FC FUSION AFFIMER® BIOTHERAPEUTIC TARGETING PD-L1 INHIBITS TUMOUR GROWTH IN MOUSE	94
<i>F. Mullen, E. Adam, E. Jenkins, M. De Jaeger, B. Ossola, J. Bate, J. Sivula, L. Strong, L. Tsikna, A.L. Nagues, M. Fancon, A. Basran</i>	
A NOVEL PROTEIN SCAFFOLD, ENGINEERED SPINK2, FOR GENERATION OF INHIBITORS WITH HIGH AFFINITY AND SPECIFICITY AGAINST TARGET PROTEASES	95
<i>D. Nishimiya, Y. Kawaguchi, S. Kodama, H. Nasu, H. Yano, A. Yamaguchi, M. Tamura, R. Hashimoto</i>	
CHALLENGES AND OPPORTUNITIES WITH EARLY IMMUNOGENICITY RISK ASSESSMENT AND FUNCTIONAL TESTING OF IMMUNO-ONCOLOGY DRUGS	96
<i>M.O. Wong, S. Pattijn, B. Hoedemaekers, T. Jonckheere</i>	
NEW ENZYMATIC TOOLS FOR O-GLYCAN ANALYSIS USING LC-MS	97
<i>P. Onigman, M. Mejare, M. Nordgren, F. Leo, R. Lood, S. Bjork, J. Sjogren, H. Nyhlen, F. Olsson</i>	

COMPARISON OF BRIDGE AND ACE-FORMAT ASSAYS FOR ANTI-DRUG ANTIBODIES IN ANTI-IL-17A TREATED HEALTHY DONORS FROM PHASE I CLINICAL TRIAL.....	98
<i>T. Ostroukhova, O. Bulaeva, E. Gerasimovich, A. Yakupova, A. Grachev, E. Chernyaeva</i>	
BIOINFORMATIC AND EXPERIMENTAL CHARACTERIZATION OF ISRAA, A NOVEL MOUSE INTRON-NESTED GENE INVOLVED IN REGULATING T-CELL ACTIVATION.....	99
<i>N.B. Khalaf, M. Bakhiet, D.M. Fathallah</i>	
DEVELOPMENT OF AN ANTIBODY-DRUG CONJUGATE TARGETING THE MUC1-C ONCOPROTEIN ON HUMAN CANCER CELLS.....	100
<i>G. Panchamoorthy, C. Jin, D. Raina, M. Yamamoto, A. Bharti, R. Bronson, S. Jiang, L. Li, Y. Suzuki, A. Tagde, P. Ghoroghchian, S. Kharbanda, D. Kufe</i>	
CANSCRIPT IS AN EX VIVO HUMAN TUMOR CULTURE PLATFORM CAPABLE OF ACCURATELY CAPTURING RESPONSE TO IMMUNE MODIFYING AGENTS	101
<i>M.J. Paris, S. Thyagarajan, B. Majumder, P. Radhakrishnan, M. Biswas, M. Smalley, K.S. Sabitha, K.G. Babu, A. Goldman, P. Majumder</i>	
CHIMERIC-ANTIGEN-RECEPTOR (CAR) T-CELL THERAPY, CAN WE LEVERAGE THE SUCCESS?.....	102
<i>A. Pato, A. Globersin-Levin, T. Shiloach, M. Rawet-Slobodkin, T. Waks, Z. Eshhar</i>	
PROBING ANTIGEN RECOGNITION OF EFFECTOR T CELLS IN ANTI-TUMOR IMMUNE RESPONSES.....	103
<i>B. Pearce, C.G. Rappazzo, K. Moynihan, D. Irvine, M. Birnbaum</i>	
TOLEROGENIC IMMUNE MODIFYING NANOPARTICLES AS AN ANTIGEN-SPECIFIC THERAPY FOR THE TREATMENT OF TH2-MEDIATED FOOD ALLERGY	104
<i>J.R. Podojil, C.B. Smarr, T.P. Neef, R.M. Pearson, D.R. Getts, P.J. Bryce, L.D. Shea, S.D. Miller</i>	
DEVELOPMENT AND OPTIMIZATION OF AN ADVANCED TRANSIENT EXPRESSION SYSTEM IN CHO CELLS	105
<i>M. Porte, J. Havard, G. Freund, G. Guerin-Peyrou, P. Erbacher</i>	
A TOOLBOX OF RECOMBINANT ANTIBODIES TO STUDY HUMAN TRNA SYNTHETASES IN HEALTH AND DISEASE	106
<i>C. Preger, E. Wigren, E. Ossipova, C.F. Cerqueira, M. Fathi, J. Ockinger, J. Grunewald, I. Lundberg, P.J. Jakobsson, H. Persson, S. Graslund</i>	
INFLIXIMAB-TNF-ALPHA COMPLEXES ARE ASSOCIATED WITH IMMUNOGENICITY	107
<i>S. Pressman, H. Bar-Yoseph, A. Blatt, S. Gerassy-Vainberg, B. Ungar, S. Ben-Horin, Y. Chowes</i>	
POLYMERIC HYDROGELS AS DRUG DELIVERY SYSTEMS FOR RECOMBINANT ANTI- HUMAN KLK7	108
<i>L. Puzer, A.F. Laureano, S. Helmsing, V. Fuehner, D. Araujo, M. Hust</i>	
CEA-TCB CLINICAL DOSE PREDICTION: A MECHANISTIC PK/PD MODELING APPROACH.....	109
<i>W. Qiao, J. Narula, A. Betts</i>	
A NOVEL IN-VITRO HUMAN SKIN EXPLANT TEST TO PREDICT ADVERSE IMMUNE REACTIONS TO BIOPHARMACEUTICALS.....	110
<i>L. Bibby, S. Ahmed, F. Martin, A. Tulah, A. Dickinson</i>	

COMPREHENSIVE, EFFICIENT AND RELIABLE CHARACTERIZATION OF MONOCLONAL ANTIBODY AGGREGATION BY HIGH THROUGHPUT AND QUANTITATIVE METHODS	112
<i>V. Qin, A. Coffey, K. Grant, S. Kondaveeti</i>	
AN UNBIASED DETERMINATION OF PMHC REPERTOIRES FOR IMPROVED ANTIGEN PREDICTION	113
<i>C.G. Rappazzo, M. Birnbaum</i>	
DEVELOPMENT OF A MAB BINDING A CONFORMATIONAL EPITOPE ON HUMAN AND RODENT INSULIN RECEPTOR USING A NAIVE ANTIBODY YEAST DISPLAY LIBRARY	114
<i>M.G. Rasch, R. Slaaby, N. Blume</i>	
COMBINATORIAL DOMAIN HUNTING (CDH) SOLVING PROTEIN PRODUCTION CHALLENGES	115
<i>J. Reid, S. Reich, W. Savory, T. Mander, T. Perrior</i>	
A STRUCTURE-BASED PLATFORM FOR THE DESIGN OF NEXT-GENERATION TCR THERAPEUTICS	116
<i>T.P. Riley, L. Hellman, K. Foley, M. Nishimura, D. Hardwicke, B.M. Baker</i>	
SUPPRESSION OF THE IMMUNE RESPONSE AS A TOOL TO ENHANCE THE EXPRESSION OF RECOMBINANT PROTEINS IN PLANTS.....	117
<i>F. Rinaldi, L. Mathew, H. Mason, G. Martin</i>	
NOVEL IMMUNOMODULATORY PROTEINS GENERATED VIA DIRECTED EVOLUTION OF VARIANT IGSF DOMAINS	118
<i>M.W. Rixon, S.D. Levin, L.S. Evans, E. Rickel, J. Kuijper, D. DeMonte, D. Ardourel, I. Capuano, S. Bort, J. Hoover, S. MacNeil, D. La, M.F. Wolfson, S.R. Dillon, R. Swanson, K.M. Swiderek</i>	
SELECTION OF FULLY CHARACTERIZED LEAD ANTIBODY CANDIDATES BY HIGH-THROUGHPUT MULTIPLEX SCREENINGS	119
<i>I. Roodink, B. Kazemier, N. Smits, D. Kruijzen, J.M.H. Raats</i>	
CHARACTERIZATION OF A VWF-INDEPENDENT COAGULATION FACTOR VIII HAVING D'D3 FUSION AND PEG CONJUGATION (MG1121)	120
<i>J.H. Ryu, I. Oh, C. Yu, H. Kwon, E.Y. Kwak, Y.J. Kim, E.C. Jo</i>	
ANTI-HUMAN CXCR4 AND ANTI-HUMAN IL-7R ANTIBODIES SELECTED FROM NON-IMMUNE REPERTOIRES	121
<i>J. Santos, I. Toth, A. Pica-Milho, J. Queiroz, P. Canhao, F. Martins, J. Assuncao, D. Ramos, A. Barroso, D. Teixeira, M. Gonzalez-Pajuelo</i>	
A MULTIPLATFORM STRATEGY FOR THE DISCOVERY OF CONVENTIONAL MONOCLONAL ANTIBODIES THAT INHIBIT THE VOLTAGE-GATED POTASSIUM CHANNEL KV1.3	122
<i>Y. Bisharyan, J. Bednenko, R. harriman, L. Marien, H.M. Nguyen, A. Agrawal, A. Papoyan, J. Cardarelli, D. Cassidy-Hanley, T. Clark, D. Pedersen, Y. Abdiche, W. Harriman, B.V.D. Woning, H. De Haard, E. Collarini, H. Wulff, P. Colussi</i>	
HYBRIFREE: A ROBUST AND RAPID METHOD FOR THE DEVELOPMENT OF HIGH QUALITY MONOCLONAL ANTIBODIES FROM DIFFERENT HOST SPECIES.....	123
<i>S. Saul, G. Kivi, K. Teesalu, J. Parik, E. Kontkar, K. Mumm, M. Ustav, L. Noodla, M. Ustav, A. Mannik</i>	

ELECTRON MICROSCOPY: A POWERFUL TOOL FOR CHARACTERIZATION OF BIOTHERAPEUTICS.....	124
<i>A. Schneemann, J.A. Speir, T. Nieusma, M. Janssen, S. Dunn, A. Cheng, B. Carragher, C.S. Potter</i>	
A CANDIDATE TRIAGE ROADMAP: UPFRONT AFFINITY AND CROSS-REACTIVITY DATA DOVETAILED WITH SEQUENCE DIVERSITY AND COMPUTATIONAL MODELING REDUCE RECONSTRUCTION WORKLOAD.....	125
<i>A. Schulkins, J. Tang, J. Bowlby, R. Jorgensen, D. Girton, L. Wang, C.N. Chen</i>	
NOVEL TRANSPOSASE TOOLS FOR CELL-LINE ENGINEERING.....	126
<i>M. Scotcher, F. Boldog, S. Rajendran, M. Lee, M. Hunter, C. Tallsalt, N. Kulikov, T. Purcell, M. Welch, C. Gustafsson, J. Minshull</i>	
INTERNALIZING ANTIBODY TO NOVEL TARGET EXPRESSED ON PEDIATRIC AND OTHER SOFT TISSUE TUMORS.....	127
<i>G. Serrero, J. Marquez, J. Dong, C. Tian, C. Dong, D. Hicks, B. Yue</i>	
AUTOMATED DATA PROCESSING AND ANALYSIS FOR QUALITY MONITORING OF BIOTHERAPEUTICS BY MULTI-ATTRIBUTE METHOD (MAM).....	129
<i>J. Shambaugh, A. Tartiere, N. DeGraan-Weber, C. Wigmore, D. Bush</i>	
OPTIMIZING SMALL SCALE DEVICES FOR CHO AND HEK293.....	130
<i>A. Sirianni</i>	
USE OF MAMMALIAN VIRUS DISPLAY TO SELECT ANTIBODIES SPECIFIC FOR COMPLEX MEMBRANE ANTIGENS.....	131
<i>E. Smith</i>	
EMERGING TECHNOLOGY FOR HOS EVALUATION - MORE THAN A-HELIX AND - SHEET: EXPANDING THE ROLE OF CIRCULAR DICHROISM.....	132
<i>K. Solomon</i>	
LARGE SCALE STUDY OF THE W-ION ISOLEUCINE AND LEUCINE DETERMINATION (WILD) METHOD IN ANTIBODY DE NOVO PROTEIN SEQUENCING.....	133
<i>A. Stajduhar, Z. McDonald, Q. Liu, A. Stajduhar, B. Ma, P. Taylor, J.R. Krieger</i>	
TUNABLY STABLE-ACID CLEAVABLE TRITYL LINKER.....	134
<i>P. Adhikari, J. Sadowsky, T. Pillow</i>	
FC BINDING AND FUNCTION ASSAYS: TOWARDS UNDERSTANDING THE MECHANISM OF ACTION OF THERAPEUTIC ANTIBODIES.....	135
<i>G. Bembridge, E. Kovacs, A. Michelet, A. Hearn, R. Holgate, A. Manin, F. Rudge, C. Bunce</i>	
STRATEGIES FOR HIGH-TITER PROTEIN EXPRESSION USING THE EXPICHO AND EXPI293 TRANSIENT EXPRESSION SYSTEMS.....	136
<i>C.Y. Liu, J. Liu, W. Yan, K. Williston, H. Chiou, J. Zmuda</i>	
IDENTIFICATION OF RNA VIRUS REPLICATION INHIBITORS USING A FLUORESCENCE POLARIZATION SCREEN.....	137
<i>G. Liu, P.J. Nash, B. Johnson, M.G. Ilagan, D.M. Mills, M.R. Edwards, P. Luthra, C.F. Basler, D.T. Moir, T.L. Bowlin, D.W. Leung, G.K. Amarasinghe</i>	
IMPROVED PROTEIN IMPURITY ANALYSIS BY SIMPLE FLUORESCENT LABELING AND CAPILLARY ELECTROPHORESIS.....	138
<i>J. Liu</i>	

CODEEVOLVER PROTEIN ENGINEERING TECHNOLOGIES AND MODIFICATION ENZYMES FOR BIOLOGICS	139
<i>J. Liu, G. Banerjee, J. Yang, X. Zhang, E. Milczek, M. Mayo, S. Jenne, X. Yi, J. Nazor, J. Riggins, J. Moore, M. Miller, C. Chng, J. Penfield, O. Alvizo, A. Krebber, J. Lalonde, G. Huisman</i>	
FTIR SPECTROSCOPY AS A TOOL FOR THE SECONDARY STRUCTURE CHARACTERIZATION OF PROTEIN THERAPEUTICS.....	140
<i>L.L. Liu, J.C. Rouse</i>	
DEVELOPMENT OF A NOVEL "IMBALANCED" CD20/CD3 BISPECIFIC ANTIBODY BY COMPUTATIONAL DESIGN	141
<i>Y. Liu, W. Cai, J. Shi, Q. Meng, Z. Jia, B. Christie, M. Chen</i>	
UNITI™ PLATFORM TECHNOLOGY: MIX-AND-MATCH SIMPLICITY FOR ENGINEERING OF MULTI-FUNCTIONAL PROTEIN THERAPEUTICS.....	142
<i>S.J. Maiocco, B. Vash, A. Loew</i>	
MEASUREMENT OF FC-MEDIATED ADCC AND CDC ACTIVITY OF ANTI-TNFA AND ANTI-VEGF THERAPEUTIC ANTIBODIES USING REPORTER-BASED BIOASSAYS AND ENGINEERED TNFA+ AND VEGF+ TARGET CELLS	143
<i>H. Marble, D. Garvin, J. Grailer, R. Moravec, J. Hartnett, F. Fan, M. Cong, Z.J. Cheng</i>	
QUALITY COMPARISON OF BIOSIMILAR AND COPY FILGRASTIM PRODUCTS WITH THE INNOVATOR PRODUCT	144
<i>M. Marquez, L.A. Halim, R.F. Maas-Bakker, G. Castaneda-Hernandez, W. Jiskoot, H. Schellekens</i>	
INTERACTION OF A MACROCYCLE WITH AN AGGREGATION HOTSPOT ON A MONOCLONAL ANTIBODY	146
<i>M.M. Morales, C.F.V.D. Walle, J.P. Derrick</i>	
DIRECTED EVOLUTION OF ANTI-OCT4A ABFINITY RABBIT RECOMBINANT MONOCLONAL ANTIBODY CDRS TO ENHANCE SENSITIVITY	148
<i>C. Bhambhani, M. Liss, H. Adams, N. Unnikrishnan, R. Shetty, S. Sinha, S. Kumar, V. Bais, P. Kumar, A. Trefzer, D. Shankar</i>	
SIMPLIFIED SAMPLE PREP OF ANTIBODIES FOR PURITY DETERMINATION BY SEC- HPLC USING THE THOMSON FILTER VIALS	150
<i>M. Matthews</i>	
ENGINEERING AND ARMING OF SOLUBLE T-CELL RECEPTORS FOR TARGETING OF TUMOR SPECIFIC HLA LIGANDS	151
<i>D. Maurer</i>	
STATIC LIGHT SCATTERING SIGNATURES USED TO IDENTIFY STABILITY AND MINIMIZE AGGREGATION DURING FORMULATION DEVELOPMENT	152
<i>S. McCormick, H.P. Rahn, M.F. Drenski</i>	
CONTROLLING FAB TERMINAL SIALYLATION OF ANTIBODIES THROUGH CULTURE CONDITIONS.....	153
<i>C. McIntosh, A. Mason, B. Chi, K. Polizzi, C. Sellick, C. Kontoravdi</i>	
THE BENEFITS OF BISPECIFIC MAB-SQUARE ANTIBODIES TARGETING EGFR AND HGF	155
<i>M. Medcalf, K.M. Leung, S. Isaac, H. Sun, M. Tuna</i>	

AFFIMER® REAGENTS FACILITATE AFFINITY CHROMATOGRAPHY PURIFICATION OF IGG.....	156
<i>C. Miller, G. Platt</i>	
NOVEL ANTI-CD20 ANTIBODY: DEVELOPMENT, CHARACTERIZATION AND PRECLINICAL STUDIES.....	157
<i>A. Misorin, I. Ustiugov, S. Diduk, M. Shchemeleva, P. Yakovlev, A. Vladimirova, E. Krendeleva, N. Safonova, G. Zhirivskaya, N. Kozhemyakina, A. Anikina, V. Solovye, R. Ivanov</i>	
EVALUATION OF DIFFERENT CULTURE PARAMETERS FOR AN EFFICIENT CAR-T CELLS PRODUCTION	158
<i>A. Mizukami, P.D. Moco, L.D. Vaz, K.C.R.M.D. Farias, V. Picanco-Castro, K. Swiech, D.T. Covas</i>	
LABEL-FREE DETECTION OF HIGH-DENSITY PEPTIDE ARRAYS	159
<i>A. Mueller, N. Jahn, P. Fechner, G. Proll, R. Bannen, E. Sullivan, J. Patel</i>	
THE JOURNEY OF MYLOTARG™ FROM DISCOVERY TO REGULATORY APPROVAL.....	160
<i>D.V. Nadkarni, T.R. Johnson, L. Letendre, H. Li, Q. Jiang</i>	
SCREENING, OPTIMIZATION AND CHARACTERIZATION OF A NOVEL 4-1BB X 5T4 ADAPTIR BISPECIFIC ANTIBODY	161
<i>D. Bienvenue, L. Von Schantz, L. Misher, D. Mitchell, A. Sall, F. Gruswitz, B. Woodruff, M. Daugherty, M. Aguilar, S. Fritzell, R. Bader, G. Blahnik-Fagan, P. Ellmark, G. Hernandez-Hoyos</i>	
SOLUTION BASED HOMOGENEOUS IMMUNOASSAYS FOR CHARACTERIZATION AND SCREENING OF ANTIBODY-FCRN INTERACTIONS	163
<i>N. Nath, B. Godat, R. Flemming, M. Urh</i>	
DEVELOPMENT AND CHARACTERIZATION OF A NOVEL BISPECIFIC BIPARATOPIC ANTI-HER2 ANTIBODY	164
<i>O. Nazarenki, M. Shchemeleva, A. Misorin, A. Vladimirova, T. Nemankin, N. Kozhemyakina, I. Ustiugov, P. Yakovlev, R. Ivanov</i>	
CONJUGATION PROCESS IMPROVEMENTS - APPLICATION OF LOCK RELEASE TECHNOLOGY	165
<i>R. Noel, C. McKee</i>	
SMALL MOLECULE PHARMACODYNAMICS: DEFINING THE POTENCY OF TUBULIN-TARGETING DRUGS AT THE SINGLE CELL LEVEL	166
<i>S. Nottoli, G. Jenkins, K. Durbin</i>	
CONCISELY PRODUCED HOMOGENEOUS ANTIBODY-DRUG CONJUGATES BY A TRYPTOPHAN-SELECTIVE PROTEIN BIOCONJUGATION	167
<i>K. Oisaki, T. Ishiyama, K. Saiki, Y. Seki, K. Iguchi, M. Mitsuda, M. Kanai</i>	
PROTABANK: A COMPREHENSIVE DATABASE FOR PROTEIN ENGINEERING AND DESIGN	168
<i>B. Olafson, C. Wang, P. Chang, M. Ary, B. Allen, R. Chica, S. Mayo</i>	
QUANTITATIVE SYSTEMS PHARMACOLOGY AND IMMUNOTHERAPY: ACCELERATING LEAD GENERATION AND OPTIMIZATION OF A PD-1 X TIM-3 BIOTHERAPEUTIC IN IMMUNO-ONCOLOGY	169
<i>J. Park, J.F. Apgar, J. Wong, R. Phennicie, M. Briskin, J.M. Burke</i>	

A TOOLBOX OF FUNCTIONAL ASSAYS TO ACCELERATE IMMUNO ONCOLOGY DRUG DEVELOPMENT	170
<i>S. Pattijn, T. Jonckheere, J. Lamy, T. Janss, M. Oh</i>	
STABLE EPISOMAL EXPRESSION SYSTEM IN CHO CELLS TO ACCELERATE NON-GMP PRODUCTION OF THERAPEUTIC ANTIBODIES	171
<i>L. Peil, M. Ustav, K. Kangro, M. Kadaja, M. Ool, R. Tegova, K. Mumm, A. Kalling, K. Murumets, G. Kivi, K. Karro, T. Mannik, A. Tover, A. Mannik, U. Toots, M. Ustav</i>	
IMMTACT™ - ENGINEERING HIGH-AFFINITY, SOLUBLE TCRS	172
<i>R. Pengelly</i>	
MAXIMIZING PRODUCTIVITY AND DATA RELEVANCE WITH A SCALABLE, NON-VIRAL CELL ENGINEERING TECHNOLOGY	173
<i>J. Brady</i>	
FLOWCAM NANO PROVIDES COUNTS, SIZES AND IMAGES OF NANO- AND MICROPARTICLES: APPLICATION TO A THERAPEUTIC PROTEIN PUMPING STUDY	174
<i>K. Peterson, C. Her, C. Sieracki, C. Mills, J. Carpenter</i>	
DEVELOPMENT OF A FULLY HUMAN T-CELL ENGAGING BISPECIFIC ANTIBODY FOR THE TREATMENT OF MULTIPLE MYELOMA	175
<i>D.T. Pham, B. Buelow, P. Choudry, S. Clarke, S.F. Aldred, K. Dang, P. Pratap, H. Ugamraj, U.S. Rangaswamy, L.M. Davison, K.E. Harris, N.D. Trinklein, U. Schellenberger, N. Shah, A. Wiita, W.C. Van Schooten</i>	
READY-TO-USE POTENCY ASSAYS FOR BEVACIZUMAB, AFLIBERCEPT, AND RANIBIZUMAB	176
<i>A. Prasad, P. Urqhart, H. Daino-Laizure, G. Paranjpe, J.E. Lamerdin</i>	
DRIVING ROBUST AND REPRODUCIBLE ADCC AND T CELL REDIRECTION WITH SINGLE-DONOR DERIVED KILR® CD16 EFFECTOR CELLS	177
<i>A. Prasad, L. Blackwood, L. McAleer, H. Daino-Laizure, J.E. Lamerdin</i>	
ENGINEERING A BI-SPECIFIC T-CELL RECEPTOR/ANTI-CD3 IGG FOR CYTOMEGALOVIRUS	178
<i>A.N. Qerqez, E. Wagner, A. Nguyen, C. Stevens, J. Maynard</i>	
A STUDY IN LIGHT SCATTERING TECHNIQUES TO INVESTIGATE PROTEIN STABILITY AND AGGREGATION	180
<i>V. Radhakrishnan, E. Lim, S. Hussey</i>	
A NOVEL IN-VITRO ASSAY FOR DETECTION OF IMMUNOTOXICITY OF AGGREGATED MONOCLONAL ANTIBODIES	181
<i>A. Ribeiro, S. Ahmed, A. Dickinson</i>	
EVALUATION OF NEW TECHNOLOGY FOR QUALITY CONTROL LABORATORIES: MICROCHIP CAPILLARY ELECTROPHORESIS	182
<i>T. Riehlman, G. Carreau, N. Nall, J. Schneiderheinze, P. Bigwarfe</i>	
DEVELOPMENT AND QUALIFICATION OF A HIGH PERFORMANCE LIQUID CHROMATOGRAPHY METHOD FOR MONITORING TRITON X-100 DURING THE PURIFICATION PROCESS DEVELOPMENT OF A BIOPHARMACEUTICAL	183
<i>B.A. Russell, P.A. Bariola, K. De Jongh</i>	

A COMPUTATIONAL TOOL FOR THE DETECTION OF LIABILITIES IN THERAPEUTIC ANTIBODIES	184
<i>K. Sankar, K. Trainor, C. Negron, P.M. Tessier, T. Day, E. Meiering, J. Maier</i>	
A NANOBODY DIRECTED AGAINST THE SPOT-TAG, A NOVEL PEPTIDE TAG FOR PROTEIN DETECTION, PURIFICATION, AND IMAGING	185
<i>A. Buchfellner, M. Metterlein, L. Yurlova, V. Leingartner, B. Ruf, J. Bogner, T. Romer, F. Hartlepp, P.D. Kaiser, C. Linke-Winnebeck</i>	
REDISCOVER THE STRENGTHS OF YOUR PA 800 PLUS – A MULTI ATTRIBUTE PROTEIN ANALYZER.....	187
<i>M.R. Santos</i>	
SUPERHUMAN 2.0: THOUSANDS OF HITS AGAINST ANY ANTIGEN WITH A COMPUTATIONALLY OPTIMIZED REPERTOIRE	188
<i>D. Shanghavi, C. Pettus, D. Maurer, S. Ives, R. Newland, Y. Abdiche, D. Bedinger, C. Smith, G. Day, L. Schwimmer, J. Glanville</i>	
RAPID PROTEIN PRODUCTION IN CHO CELLS: FROM TRANSFECTION TO 100G IN 6 WEEKS	189
<i>M. Shi, J. Cai, W. Zhou</i>	
HOS BIOSIMILARITY AND COMPARABILITY - OBJECTIVE, QUANTIFIABLE HOS COMPARISONS: A BIOSIMILAR CASE STUDY UTILIZING CIRCULAR DICHROISM	190
<i>D. Sliwa</i>	
ENZYMATIC (DUAL) SITE-SPECIFIC CONJUGATION OF ENGINEERED AND NATIVE ANTIBODIES	191
<i>P.R. Spycher, J.E. Wehrmuller, C.A. Amann, D.R. Hurwitz, O. Kreis, D. Messmer, A. Ritler, A. Kuchler, A. Blanc, M. Behe, P. Walde, R. Schibli</i>	
BOLSTERING THERAPEUTIC EFFICACY AND SPEED TO CLINIC USING NON-VIRAL T-CELL ENGINEERING	192
<i>K. Steger, J. Carmen, R. Shivakumar, J. Brady</i>	
DEEP LEARNING ENABLES EASY SWITCHING OF HCS MODALITIES, FROM SMALL TO LARGE MOLECULES AND BETWEEN HUMAN DONORS.....	193
<i>S. Steigele, D. Siegismund, M. Kustec, M. Fassler, D. Ross-Thriepland, J. Pilling, S. Heyse</i>	
THE TUB-TAG®: A TOOL FOR SITE-SPECIFIC PROTEIN CONJUGATION WITH APPLICATION IN ANTIBODY-DRUG-CONJUGATE (ADC) DEVELOPMENT	194
<i>A. Stengl</i>	
DETERMINING THE RELATIONSHIP BETWEEN T CELL RESPONSE AND AFFINITY OF CYTOMEGALOVIRUS-SPECIFIC TCRS	195
<i>C. Stevens, E. Wagner, A. Qerqez, C. Williams, J. Jiang, J. Maynard</i>	
SIMULTANEOUS IMPROVEMENT OF SPECIFIC CATALYTIC ACTIVITY AND THERMAL STABILITY OF MBP FUSION HEAPRINASE II BY MODIFYING AMINO ACID RESIDUES IN 758 SITE	197
<i>N. Su, J. Wu, C. Zhang, X.H. Xing</i>	
SECURE AND TRACEABLE ACOUSTIC LIQUID HANDLING - AN INTEGRATED SYSTEM FOR REGULATED LABORATORY ENVIRONMENTS	198
<i>R. Burge</i>	

PREDICTION OF ANTIBODY-DRUG CONJUGATE SITE OCCUPANCIES AT LYSINE RESIDUES	199
<i>T. Sulea, C.R. Corbeil, E.O. Purisima, T.L. Tremblay, J.J. Hill</i>	
IN VIVO ASSESSMENT OF THE IMMUNOGENICITY AND ANAPHYLACTIC REACTIVITY OF PEGYLATED NANO-BIOPHARMACEUTICALS IN PIGS	200
<i>J. Szebeni, G. Kozma, T. Meszaros, R. Urbanics</i>	
EPITOPE MAPPING AND PREDICTING PROTEIN-PROTEIN BINDING SITES	201
<i>N. Thorsteinson</i>	
GROWING PORTFOLIO OF MODULAR BINDERS FOR THE RAPID GENERATION OF BISPECIFIC ANTIBODIES	202
<i>H. Tran, I. White, C. Prokopowitz, H. Pham, F. Moussa, R. Swoboda</i>	
A RAPID, HIGH-THROUGHPUT RECOMBINANT ANTIBODY EXPRESSION SYSTEM FOR THERAPEUTIC ANTIBODY DISCOVERY AND VALIDATION	204
<i>M. Trang, L. Santibanez-Vargas, K. Sindhu, C. Vo, E.R.J.S. Kenney</i>	
USING QUANTITATIVE LC-MS/MS ANALYSIS OF INTRACELLULAR DRUG ACCUMULATION FOR CHARACTERIZATION OF ANTIBODY DRUG CONJUGATES	205
<i>S.P. Tsai, J. Chuh, J. Nonomiya, K. Kozak, Y. Liu</i>	
COMPARISON OF IMMUNOGENICITY TEST METHODS DESTINED FOR CLINICAL STUDIES OF MONOCLONAL ANTI-CTLA4 ANTIBODY	206
<i>N. Ushakova, A. Popkova, O. Bulaeva, T. Ostroukhova, A. Kushakova</i>	
METABOLIC INCORPORATION OF A FLUORESCENT AMINO ACID INTO PROTEINS OF INTEREST FOR LIVE-CELL IMAGING	207
<i>A.J. Vincelli, A. Adomah, M. Korkoyah, Z. Liu, X. Niu, M. Guo</i>	
DESIGNING BISPECIFIC ANTIBODIES FOR IMMUNO-ONCOLOGY	208
<i>L. Von Schantz, F. Carlsson, J. Petersson, M. Thorolfsson, K. Tsiobanelis, B. Nyesiga, K. Jansson, L. Varas, A. Dahlman, A. Sall, C. Furebring</i>	
THERMAL DENATURATION ANALYSIS OF BOVINE SERUM ALBUMIN BY MICROFLUIDIC MODULATION SPECTROSCOPY	209
<i>L. Wafer, J. Rouse, L. Wang, J. Zonderman, E. Ma</i>	
AUTOMATED INTACT MASS ANALYSIS FOR THE CHARACTERIZATION OF ANTIBODIES	210
<i>D. Bush, J. Shambaugh, A. Tartiere, N. DeGraan-Weber, C. Wigmore, P. Haberl</i>	
HOS STUDY FOR IGG SAMPLES SPIKED WITH DIFFERENT AMOUNT OF BSA BY MMS	211
<i>L. Wang, B. Kendrick, J. Zonderman, E. Ma</i>	
DEVELOPMENT OF ENDOGENOUS IL-2 REPORTER T-CELL ACTIVATION BIOASSAY	212
<i>Y. Wang, A. Lublinsky, X. He, U. Narayanan, S. Allan, Z.H. Yan, S. Menon</i>	
ASSESSING THE AGGREGATION PROPENSITY OF CLINICALLY RELEVANT MABS USING EXTENSIONAL FLOW	213
<i>L.F. Willis, A. Kumar, T. Jain, I. Caffry, Y. Xu, M. Vasquez, A.E. Ashcroft, S.E. Redford, N. Kapur, D.J. Brockwell</i>	

HITTING THE GAS: QUANTITATIVE CELL-BASED BIOASSAYS TO ADVANCE IMMUNOTHERAPY PROGRAMS TARGETING CO-STIMULATORY IMMUNE CHECKPOINT RECEPTORS	214
<i>C. Winslow, J. Wang, M. Beck, J. Grailer, J. Hartnett, F. Fan, M. Cong, Z.J. Cheng</i>	
STUDYING THE PREVALENCE OF SECONDARY LIGHT CHAINS IN RESEARCH PURPOSE MONOCLONAL ANTIBODIES WITH MS-BASED DE NOVO PROTEIN SEQUENCING	215
<i>M. Xie, Z. McDonald, Q. Liu, M. Xie, B. Ma, P. Taylor</i>	
A NEW TWIST ON ANTIBODY LIBRARY ENGINEERING	216
<i>L.J. Xu, D. Cooke</i>	
BENDER: FIRST SEMANTIC-BASED ANTIBODY FOLDING WITH STRUCTURAL ANNOTATIONS	217
<i>P. Yakovlev, B. Neterbskii, V. Morozov, O. Bolshakova, A. Gornov, A. Anikin</i>	
EXPISF: A CHEMICALLY-DEFINED BACULOVIRUS-BASED EXPRESSION SYSTEM FOR ENHANCED PROTEIN PRODUCTION IN SF9 CELLS	218
<i>M. Yovcheva, S. Barnes, K. Thompson, M. Cross, K. Irvin, M. Desai, N. Lucki, H. Chiou, J. Zmuda</i>	
DEVELOPMENT OF A SIMPLE, RAPID AND SENSITIVE HOMOGENEOUS IMMUNOASSAY	219
<i>F. Yu, A. Tsourkas</i>	
ISOLATION OF FUNCTIONALLY UNAFFECTED CELLS STRAIGHT FROM BUFFY COAT, LRSC OR LEUKOPAK WITHOUT DENSITY GRADIENTS	220
<i>Z. Yu, M. Schlemminger, S. Weber-Lohmann, M. Kolnik, S. Hoher-Peters, G. Winkels</i>	
DEVELOPMENT OF A HIGH-THROUGHPUT MULTIPLEX MOUSE IGG ISOTYPING AND QUANTITATION ASSAY	221
<i>M. Carter, J. O'Rourke, Z. Liu</i>	
DEGRADATION IN CO-FORMULATION OF THERAPEUTIC PROTEINS	223
<i>H. Zhang, J. Hales, S. Aoudjane, P. Dalby</i>	
SMART LIBRARIES AND PHAGE-INDUCED DIRECTED EVOLUTION OF CAS9 TO ENGINEER REDUCED OFF-TARGET ACTIVITY	224
<i>D. Cerchione, K. Loveluck, E. Tillotson, F. Harbinski, J. DaSilva, E. Keston-Smith, C. Kelley, V. Myer, H. Jayaram, B. Steinberg</i>	
EFFECT OF EXCIPIENTS ON LOW ENDOTOXIN RECOVERY	225
<i>J. Chiu, H. Li, S. Jiang, W. Jackson</i>	
STREAMLINED BI-SPECIFIC ANTIBODY PRODUCTION USING AUTOMATED CHEMOENZYMATIC SITE-SPECIFIC CROSSLINKING	226
<i>B.J. Agnew, R. Aggeler</i>	
TWO-DIMENSIONAL LIQUID CHROMATOGRAPHY (2D-LC), RESOLUTION TO EXOSOME CHARACTERIZATION IN CELL CULTURE MEDIA	227
<i>B. Choi, D. Houde</i>	
SENSITIVITY ENHANCEMENT IN IMMUNOASSAYS BY POLYMERIC PROTEIN G	228
<i>K.H. Chuang, Y.J. Chen, M. Chen</i>	

PROPOSE: A DIRECT-SEARCH PROTEIN-PROTEIN DOCKING ALGORITHM - COMPARATIVE ASSESSMENT TO COMMONLY USED METHODS	229
<i>C.R. Corbeil, F. Gaudreault, H. Hogues, T. Sulea, C. Deprez, E.O. Purisima</i>	
FIRST-IN-CLASS EXPRESSION AND CHARACTERIZATION REQUEST MANAGEMENT SYSTEM TO INCREASE BIOTHERAPEUTICS RESEARCH AND DEVELOPMENT OPERATIONAL EFFICIENCY	230
<i>A. Craig-Kennard, M. Moravec, S. Schlicker, J. Terragni, A. Lynch, M. Wendt, H.P. Fischer</i>	
C-TAG AFFINITY TAG, FROM ROUTINE PROTEIN PURIFICATION TO USE IN A CGMP PRODUCTION PROCESS	231
<i>B. Dawson, F. Detmers, P. Hermans, R. Clasen, J. De Rooij</i>	
A HIGH THROUGHPUT APPROACH TO CONSTRUCT GENERATION, EXPRESSION SCREENING AND SAMPLE MANAGEMENT FOR RECOMBINANT PROTEIN PRODUCTION	232
<i>T.D. Vega, S. Shriver, I. Zilberleyb, B. Brillantes, A. Covarrubias, R. Durham, G. Dutina, K. Heeringa, E. Kraft, C. Kugel, I. Lehoux, S. Li, L. Lior-Hoffman, C. Lonergan, L. Martin, K. Mortara, I. Mustafa, A. Perez, H. Sampang, K. Schroeder, L. Singh, C. Tam, S. Ti, J. Win, A. Wong, Y. Franke, K. Bowman</i>	
INTEGRATED APPROACHES ENABLED RAPID AND SENSITIVE CHARACTERIZATION OF FUNCTIONAL CD73 ANTIBODIES WITH DIFFERENTIATING MECHANISMS OF BINDING AND INHIBITION	233
<i>G. Deng, J. McManus, H. Zeng, T. He, J.A. Gavigan, E. Remy, M. Mathieu, Y. Chen, O. Bede, P. Ferrari, T. Gillespy, R.C. Gregory, H. Cheng, B. Zhang</i>	
THERMOSTABLE FERRITIN AS A CAGE CONFINEMENT CHAPERONE TO FOLD AND STABILIZE INCLUSION BODY PROTEINS	234
<i>S. Deshpande, N. Masurkar, C.L. Drum</i>	
THE DEVELOPMENT OF A NEXT GENERATION ANTIBODY-DRUG CONJUGATE	235
<i>B. Deuel, X. Yao, H. Li, H. Ye, L. Li, A.C. Huang, J. Fang</i>	
BI-SPECIFIC SOLUBLE T CELL RECEPTORS TARGETING CANCER, INFECTIOUS AND AUTOIMMUNE DISEASES	236
<i>J. Donoso, E. Matous, P. Uluocak, N. Smith, M. Becker, P. Weber, N. Hassan, A. Vuidepot, B. Jakobsen</i>	
MODELING 10000 ANTIBODIES IN ABOUT AN HOUR: LEVERAGING THE POWER OF THE AMAZON CLOUD	237
<i>A. Ajamian</i>	
HIGH THROUGHPUT PROTEIN EXPRESSION, PURIFICATION, AND TESTING- SUBSTANTIALLY INCREASING THE DISCOVERY RATE OF NOVEL, ACTIVE PROTEINS	238
<i>E. Dunn, D. Vaknin, A. DeBrecht, D. Lehtinen</i>	
COVISOLINK™: NEW BACTERIAL TRANSGLUTAMINASE Q-TAG SUBSTRATE FOR THE DEVELOPMENT OF SITE SPECIFIC ANTIBODY DRUG CONJUGATES	239
<i>M.R. Dyson, E. Sivado, M. El Alaoui, J. McCafferty, C. Dumontet, S. Valsesia-Wittmann, S. El Alaoui</i>	
AN IN VIVO PLATFORM TO SELECT AND EVOLVE AGGREGATION-RESISTANT PROTEIN THERAPEUTICS	240
<i>J. Ebo, J. Saunders, S. Chin, D. Lowe, S. Radford, D. Brockwell</i>	

NEW INNOVATION: HARVESTING CHO AND HEK293 CELLS WITH THE RAPID CLEAR® CAP PROVIDES 0.2UM FILTRATION IN A FRACTION OF THE TIME AND REQUIRING LESS CONSUMABLES THAN OTHER CLARIFICATION METHODS	241
<i>S. Ellis</i>	
NEXT GENERATION SEQUENCING DIRECTED PRODUCTION OF HIGHLY DIVERSE AND FUNCTIONAL HUMAN ANTIBODY LIBRARIES.....	242
<i>M.F. Erasmus, S. D'Angelo, F. Ferrara, L. Naranjo, A.R.M. Bradbury</i>	
ON THE USE OF CHAPERONIN BIOSENSORS TO CAPTURE PREAGGREGATION STATES OF BIOTHERAPEUTICS	244
<i>M. Fisher</i>	
LARGE-SCALE DETERMINATION OF AFFINITY, SPECIFICITY, AND KINETICS OF COMPLEX MOLECULES: AUTOMATING DATA ANALYSIS AT PACE WITH THE NEW POSSIBILITIES	245
<i>L.A. Florez, S. Steigele, M. Ginkel, R. Emkey, L. Foster, S. Heyse</i>	
HUMAN CELL LINE SHOWS BETTER EXPRESSION LEVEL FOR RECOMBINANT FACTOR VII PRODUCTION	246
<i>M.C.C. Freitas, A.S. Bomfim, V. Granovski, V. Picanco-Castro, D.T. Covas</i>	
EFFICIENT AND CONSISTENT TRANSIENT PROTEIN PRODUCTION USING A HIGH QUALITY READY-TO-USE PEI	247
<i>G. Freund, M. Porte, J. Havard, G. Guerin-Peyrou, P. Erbacher</i>	
ANTHRACYCLINE-BASED ANTIBODY-DRUG CONJUGATES WITH POTENT IMMUNE-STIMULATORY FUNCTIONS	248
<i>R. Gebleux, N. Stefan, L. Waldmeier, T. Hell, M. Escher, F. Wolter, L. D'Amico, M. Buchi, A. Zippelius, U. Grawunder, R. Beerli</i>	
MULTIVARIATE ANALYSIS OF FORMULATION AND MOLECULAR ATTRIBUTES ON MONOCLONAL ANTIBODY ABSORPTION UPON SUBCUTANEOUS ADMINISTRATION	249
<i>J. Arora, E. Schlesinger, A. Campor, J. Feindt, Y. Zhao, X. Tang, D. Liu, M. Shameem</i>	
THE CONTORSBODY: DESIGN, STRUCTURE, FUNCTION.....	250
<i>G. Georges, S. Deng, S. Imhof-Jung, F. Hesse, J.A.A. Fischer, J. Benz, M. Lauer, P. Ringler, C. Sustmann, M. Steegmaier</i>	
HIGH THROUGHPUT ANALYSIS OF ANTIBODY GLYCANS IN CELL CULTURE SAMPLES.....	251
<i>S. Giehring, A. Johann, K. Lechner, C. Wosnitza</i>	
FLOW CHEMISTRY CONJUGATION OF A NATIVE ANTIBODY - KINETIC CONTROL OF ANTIBODY-ENZYMES RATIO	252
<i>E.M. Glass, M. Weekley, C. Yaroschak, C.J. Spedaliere</i>	
RELEASING THE BRAKES: QUANTITATIVE CELL-BASED BIOASSAYS TO ADVANCE INDIVIDUAL OR COMBINATION IMMUNE CHECKPOINT IMMUNOTHERAPY	253
<i>J. Gordon, J. Grailer, J. Gilden, P. Stecha, D. Garvin, J. Hartnett, F. Fan, M. Cong, Z.J. Cheng</i>	
HIGH THROUGHPUT CALCULATION OF PROTEIN-PROTEIN INTERACTION USING TDA	254
<i>M.L. Greco, C.F.V.D. Walle, S. Uddin, R. Curtis, A. Pluen</i>	

A UNIFIED PEPTIDE ARRAY PLATFORM FOR IMMUNOGEN DESIGN AND ANTIBODY EPITOPE MAPPING, SPECIFICITY AND PREDICTIVE OFF-TARGET BINDING.....	256
<i>M.P. Greving, M. Srinivasan, C. Moore, J. Melnick, A. Lei, D. Passmore, I.J. Bright</i>	
BENCHMARKING THE IMMUNOINFORMATIC TOOLS FOR THE ALIGNMENT AND ANNOTATION OF ANTIBODY REPERTOIRE SEQUENCING DATA	257
<i>V. Grobelsek, E. Miho, V. Greiff, I. D'Angelo, S. Friedensohn, S.T. Reddy</i>	
EVALUATION OF VARIABLE PATHLENGTH ULTRA-VIOLET SPECTROSCOPY FOR DETERMINATION OF PROTEIN CONCENTRATION IN ACTIVE PHARMACEUTICAL INGREDIENT SOLUTIONS.....	259
<i>M. Grote, C. Reviol, A. Liniger, F. Schumacher, M. Leiss, C. Bell</i>	
INCREASING PROTEIN YIELDS THROUGH THE OPTIMIZATION OF HIGH DENSITY TRANSIENT MAMMALIAN EXPRESSION.....	261
<i>K. Guay, M. Wille, K. Mehta</i>	
MACHINE LEARNING FOR PREDICTIVE ANTIBODY DESIGN AND HUMANIZATION	262
<i>C. Gustafsson, M. Feldhaus, M. Cesares, S. Govindarajan, J. Minshull</i>	
A BISPECIFIC APPROACH FOR THE SELECTIVE ELIMINATION OF TUMOR TREGS	263
<i>L. Bailey</i>	
HIGH RESOLUTION EPITOPE MAPPING AND ANTIBODY CROSS-REACTIVITY ANALYSIS	264
<i>C. Haber, V. Stadler</i>	
HORIZON - HIGH THROUGHPUT LOW VOLUME SUBVISIBLE PARTICLE ANALYSIS	265
<i>R. Hart, C. Ashcroft, T. Castner, B. DiPaolo, G. Konica, T. Geise, X. Li, C. Wood, B. Cordovez</i>	
HERA-GITRL: A NOVEL HEXAVALENT HUMAN GITR AGONIST PROMOTING ANTI- CANCER IMMUNITY BY ENHANCING T CELL ACTIVATION	266
<i>K. Heinonen, V. Marschall, J. Sykora, D.M. Richards, M. Thiemann, C. Merz, M.R. Muller, J.P. Sefrin, H. Fricke, C. Gieffers, O. Hill</i>	
SELECTION TECHNOLOGY USING BACTERIOCIN-IMMUNITY TO IMPROVE MICROBIAL FERMENTATION.....	268
<i>G. Helin, P. Gabant</i>	
UNLOCKING CHALLENGING TARGETS: DEEP SCREENING OF NATURAL IMMUNE REPERTOIRES AT THE SINGLE-CELL LEVEL FOR THERAPEUTIC ANTIBODY DISCOVERY	269
<i>K. Heyries, K. Lisaingo, V. Lecault, D. Da Costa, S. Duncan, A. Moreira, M. Hamidi, E. Falconer, R. Walsh, M. Szabat, K. Herve, R. Bidshahri, K. Lam, C.L. Hansen</i>	
A VERSATILE, HIGH-THROUGHPUT SINGLE CELL SCREENING PLATFORM FOR THE GENERATION OF FULLY HUMAN ANTIBODIES FROM NATURAL IMMUNE REPERTOIRES.....	270
<i>K. Heyries, S. Duncan, K. Lisaingo, D. Da Costa, O. Petriv, A. Moreira, M. Hamidi, E. Falconer, M. Szabat, K. Herve, J. Ruschmann, R. Bidshahri, V. Lecault, C.L. Hansen</i>	
ARTIFICIAL CHAPERONE TECHNOLOGY TO ENHANCE THE PRODUCTION OF "DIFFICULT-TO-EXPRESS PROTEINS"	272
<i>A. Hishiya, K. Koya</i>	

IMPLEMENTATION OF AUTOMATED WORKFLOWS TO CELL LINE DEVELOPMENT PROCESSES	273
<i>A. Ho, A. Menon, M. Kanwar, A. SNowden</i>	
EChem BIOCONJUGATION: ELECTROCHEMICAL REDUCTION AS A NOVEL REPLACEMENT FOR CHEMICAL REDUCTION IN THIOL-MALEIMIDE-MICHAEL CONJUGATION	274
<i>D. Houser, N. Schork, S. Sharma</i>	
DEVELOPMENT OF HIGHLY POTENT FORMATS OF SOLUBLE BISPECIFIC T-CELL RECEPTORS FOR TARGETING OF TUMOR SPECIFIC HLA LIGANDS	275
<i>A. Hrle</i>	
PROSS - STRUCTURE AND SEQUENCE-BASED DESIGN OF PROTEINS FOR HIGH EXPRESSION AND STABILITY	276
<i>D. Baran</i>	
USING ANTI-POLY (ETHYLENE GLYCOL) BIOPARTICLE FOR THE QUANTITATION OF PEGYLATED NANOPARTICLES	277
<i>Y.C. Hsieh, K.H. Chuang, T.C. Cheng, H.E. Wang, J.J. Li, C.H. Kao, W.W. Lin, C.C. Huang, C.H. Chuang, Y.T. Wang, S.R. Roffler, T.L. Cheng</i>	
AGGREGATION-BASED HIGH-THROUGHPUT SCREEN IDENTIFIES NEW LEADS FOR MYOCILIN-GLAUCOMA THERAPEUTICS	278
<i>D.J.E. Huard, V.M. Crowley, Y. du, R.A. Cordova, Z. Sun, M.O. Tomlin, C.A. Dickey, J. Koren, L. Blair, H. Fu, B.S.J. Blagg, R.L. Lieberman</i>	
INCREASING ANTIBODY REAGENT THROUGHPUT AND TITRE TO MEET PROJECT AND TIMELINE DEMANDS	279
<i>D. Humphreys</i>	
ON TARGET HEXAMERISATION OF IGG1 DRIVEN BY A MUTANT FORM OF IGM TAIL-PIECE C-TERMINAL FUSION	280
<i>D. Humphreys, J.M. Sopp, S. Peters, T. Rowley, S. James, S.A. Beers, M.S. Gragg</i>	
HIGH-RESOLUTION EPITOPE MAPPING AND SPECIFICITY PROFILING OF MABS TARGETING COMPLEX PROTEINS	281
<i>D. Huston-Paterson</i>	
DEVELOPMENT AND CHARACTERIZATION OF A HUMAN ANTI-PCSK9 ANTIBODY (BCD-096)	282
<i>A. Ishutinova, A. Ulitin, S. Ageev, A.V. Solovyev, A. Berezina, A. Eroshova, V. Shitikova, I. Mitroshin, S. Diduk, A. Grachev, Y. Ustyugov, R. Ivanov</i>	
THE MAKING OF ANTIBODY LIKE (T) CELL ENGAGER ON THE BASIS OF VH-VL HETERODIMER FORMATION AND ITS APPLICATION IN CANCER THERAPY	283
<i>S. Jang, B. Park, Y. Park</i>	
GLYCOCONNECT™ AND HYDRASPACE™ TECHNOLOGIES ONE STEP FROM THE CLINIC: DECOMPOSITION OF PARAMETERS CONTRIBUTING TO THE IMPROVED THERAPEUTIC INDEX	284
<i>B. Janssen, I. Hurkmans, R. Van Geel, J. Verkade, J. Hoogenboom, M. Wijdeven, J. Van Schaik, S. Van Berkel, F. Van Delft</i>	

A MCD3XP-CADHERIN MOUSE BISPECIFIC ALLOWS IMMUNE PROFILING OF T CELL AND MYELOID CELL POPULATIONS DURING TREATMENT OF SYNGENEIC MOUSE TUMOR MODELS	285
<i>H.A. Jensen, Y.J. Guo, M. Mileski, C. Stevens, S. Bisulco, R. Conant, J. Golas, K. Kobylarz, E. Rosfjord, A. Root, M. Katragadda, A. Hooper, D. Mathur</i>	
A PLATFORM TECHNOLOGY FOR THE RAPID GENERATION OF ROBUST ANTI-IDIOTYPIC BINDERS FOR CLINICAL PK ASSAYS.....	286
<i>M. Johnson, A. Wignall, A. Davidson, H. Curd, R. Ford, J. Nuttall, A. Nicholl</i>	
CAT-02-106, A SITE-SPECIFICALLY CONJUGATED ANTI-CD22 ANTIBODY BEARING AN MDR1-RESISTANT MAYTANSINE PAYLOAD, YIELDS EXCELLENT EFFICACY AND SAFETY IN PRECLINICAL MODELS.....	287
<i>R.M. Barfield, P.M. Drake, A. Carlson, J.M. McFarland, S. Banas, W. Zmolek, Y.C. Kim, B.C.B. Huang, R. Kudirka, D. Rabuka</i>	
RAPID PURIFICATION AND CHARACTERIZATION OF RECOMBINANT PROTEINS AND ANTIBODIES: CAPTUREM HIGH-CAPACITY MEMBRANES	288
<i>G. Jokhadze, C. Hoppmann, M.T. Vierra, B. Levitan, M. Li, T. Larson, A.A. Farmer</i>	
NOVEL EXCIPIENTS FOR LIQUID STABILIZATION OF ANTIBODY-DERIVED PHARMACEUTICALS AND SUGGESTED MECHANISM FOR PROTECTION FROM AGGREGATION	290
<i>S. Jordan, J.S. Katz, B. Yezer, A. Nolin, R. Campbell, M. Covington, Y. Tan, R. Schmitt</i>	
RATIONAL DESIGN OF IMMUNO-ONCOLOGY BIOLOGICS WITH IMPROVED SAFETY AND EFFICACY	291
<i>M. Karow, K. Jenkins, M. Park, P. Johnson, A. Gonzalez, V. Flesch, T. Miles, U. Rodeck, J. Williams</i>	
MODULATING RECEPTOR SIGNALING USING VARIABODY: A NOVEL BISPECIFIC ANTIBODY FORMAT ENABLES ONE-POT SYNTHESIS OF FAB-DIMER LIBRARY	292
<i>A. Kato, M. Shimabe, J. Taneo, M. Oogi, S. Yokoyama, K. Sakamoto, Y. Shiraishi</i>	
ABDURIN DRUG CONJUGATES: SMALL IN SIZE AND LONG HALF-LIFE TO IMPROVE DRUG CONCENTRATIONS IN THE TARGET TISSUE.....	293
<i>A. Kazazz, M. Frigerio, S. Peretti, L. Tomei, A. Dermartis, C. Nardi, S. Sambucini, A. Missineo, X.B. Sheng, D. Pollard, V. Parekh, D. Morris, M. Bird, K.R. Gehlsen</i>	
CONFIRMING TARGET SPECIFICITY OR REVEALING OFF-TARGET BINDING USING HUMAN PLASMA MEMBRANE PROTEIN ARRAYS	294
<i>A. Kelly, J. Freeth, J. Soden</i>	
RECOMBINANT RSV-F NATIVE-LIKE EXPRESSION, PURIFICATION AND FUNCTIONAL CHARACTERIZATION.....	296
<i>P. Khandelwal, C. Spais, J. Schreiber, J. Wangsa, P. Liu</i>	
SITE-SELECTIVE CHEMICAL CONJUGATION OF ANTIBODIES	297
<i>J.H. Kim, H.J. Kang, S.J. Chung</i>	
SIMPLE METHOD FOR SCREENING AND PRODUCTION OF ANTIBODY USING EXIPROGEN™	298
<i>M.I. Kim, H.N. Kim, Y.H. Choi</i>	
THE EFFECT OF SIGNAL PEPTIDE ON A PROTEIN EXPRESSION AND SECRETION.....	299
<i>S. Kim, J.H. Lee, S.J. Ma, E.Y. Song, J.H. Park, S.Y. Choi</i>	

A CHEMO-ENZYMATICALLY LINKED AT1413 T-CELL ENGAGING ANTIBODY TARGETING A UNIQUE SIALYLATED EPITOPE ON CD43 PRESENT IN ACUTE MYELOID LEUKEMIA AND MELANOMA.....	300
<i>L. Bartels, G. De Jong, M.A. Gillissen, E. Yasuda, V. Kattler, C. Bru, A.Q. Bakker, J. Villaudy, M.D. Hazenberg, P.M. Van Helden, H. Spits, K. Wagner</i>	
MAXIMISING VALUE IN EARLY DEVELOPMENT.....	302
<i>N. Kinsella</i>	
CASE STUDY IN CELL BASED NEUTRALIZING ANTI-DRUG ANTIBODY ASSAY FORMAT SELECTION.....	303
<i>T. Kline, J. Su, C. Daus, J. Yie, K. Gurney</i>	
EXPRESSION AND BIOENGINEERING OF GRANZYME B-BASED ADC.....	304
<i>K. Koya, A. Hishiya</i>	
IMPROVED T CELL ACTIVATION BIOASSAYS TO ADVANCE THE DEVELOPMENT OF BISPECIFIC ANTIBODIES AND ENGINEERED T CELL IMMUNOTHERAPIES.....	305
<i>G. Krishnan, P. Stecha, D. Garvin, J. Hartnett, F. Fan, M. Cong, Z.J. Cheng</i>	
ASSAY DEVELOPMENT AND VALIDATION FOR DETECTING NABS AGAINST MAB-AGAINST-IL17A IN HUMAN SERUM.....	306
<i>D. Kuchkina, A. Danilov, N. Slavkina</i>	
ENGINEERING POSTTRANSLATIONAL PROOFREADING TO DISCRIMINATE NONSTANDARD AMINO ACIDS	307
<i>A.M. Kunjapur, D. Stork, E. Kuru, O. Vargas-Rodriguez, M. Landon, D. Soll, G. Church</i>	
DEVELOPMENT OF ANTI-GLOBO H ADC.....	308
<i>C.L. Lai, S.H. Chuang, C.P. Lee, Y.J. Chen, W.Y. Wei, Y.C. Nieh, C.L. Hsu, C.C. Wu</i>	
STRUCTURE-GUIDED ENGINEERING OF BROADLY NEUTRALIZING ANTIBODIES TARGETING THE CD4 BINDING SITE OF HIV-1 ENVELOPE.....	309
<i>Y.T. Lai, Q. Liu, P. Zhang, N. Doria-Rose, J.R. Mascola, P. Lusso, P.D. Kwong</i>	
HIGH-THROUGHPUT SYSTEM FOR RAPID PURIFICATION OF ANTIBODIES USING PROTEIN A AND PROTEIN G MEMBRANES.....	310
<i>T. Larson, G. Jokhadze, C. Hoppmann, M.T. Vierra, B. Levitan, M. Li, A.A. Farmer</i>	
ROLES OF ACTIVE-SITE AROMATIC RESIDUES IN TEMPERATURE ADAPTATION OF SERINE ESTERASES	311
<i>C.W. Lee, A. Kashif, S.H. Jang</i>	
ENGINEERING OF PROTIAS: BISPECIFIC PRO-DRUGS FOR THE TREATMENT OF SOLID MALIGNANCIES.....	312
<i>J.W. Beaver, A. Henkensiefken, C.W. Wang, C. Wang, F. Yang, B.C. Sim, V. Schellenberger</i>	
A NOVEL PLATFORM FOR VERSATILE PAYLOAD CONJUGATING TO A GLYCO-ENGINEERING TRI-MANNOSYL CORE ANTIBODY	313
<i>C.C. Lee, M.S. Lee, C.Y. Chen, S.H. Chuang, Y.J. Chen, W.Y. Wei</i>	
IMMUNOGENICITY ASSESSMENT OF BIOPHARMACEUTICALS USING IN SILICO/IN VITRO COMBINED METHOD.....	315
<i>J.W. Lee, K. Ha, D.R. Heo, Y.W. Noh, O.K. Hwang</i>	
DIRECTED EVOLUTION OF CRISPR-CAS9 TO INCREASE ITS SPECIFICITY	316
<i>J. Lee, J.K. Lee, E. Jeong, M. Jung, E. Shin, Y.H. Kim, K. Lee, D. Kim, S. Kim, J.S. Kim</i>	

SIMPLE ANTIBODY MODIFICATION BOOSTS ADC EFFICACY AGAINST POORLY-INTERNALIZING OR POORLY-EXPRESSING CANCER CELL TARGETS.....	317
<i>K. Lee, M.E. Roberts, P.C. Black, L. Lin</i>	
THE HYBRIDOMA WORKFLOW IS IMPROVED BY INCORPORATING CD138+ CELL SELECTION, B CELL ACTIVATION AND EXPANSION, AND SERUM-FREE CULTURE.....	318
<i>T. Lee, A. Maxwell, T. Rogers, W. Fong, S. Babic, Y. Shen, S. Woodside, T. Thomas, A. Eaves, M. Brown</i>	
UNCOVERING THE STRUCTURAL BASIS FOR ANTIBODY RECOGNITION OF SAS1B	320
<i>M.S.G. Legg, S.M.L. Gagnon, A. Li, D. Dryhurst, S.V. Evans</i>	
CHARACTERIZATION OF POTENT TIGIT-SPECIFIC ANTIBODIES DERIVED FROM VERY DIVERSE PHAGE DISPLAY LIBRARIES.....	321
<i>R. Levy, L. Wang, C. Xia, J. Lippincott, M. Tan, J. Wang, Q. Zhang, L. Sagara, J. Wang, L. Xu, W. Chen, D. Ting, A. Sato</i>	
MULTISPECIFIC AND MULTIVALENT ANTIBODIES AS OX40 AGONISTS	322
<i>F.Q. Li</i>	
A BISPECIFIC MULTIVALENT HIV-1 NEUTRALIZING ANTIBODY POTENTLY SUPPRESSES SHIV INFECTION	323
<i>Y. Li, Y. Wu, D.S. Dimitrov, T. Ying</i>	
AUTO-GRAFTED HINGE DOMAIN AS UNIVERSAL AB LOCK TO ENHANCE THE SELECTIVITY BY STRUCTURE-BASED COMPUTATIONAL METHODS	324
<i>W.W. Lin, Y.C. Lu, T.L. Cheng</i>	

Author Index