

Scientific Studies of (and about) Biomatrix's Technology

STABILIZATION OF ASSAYS, CELLS AND CYTOKINES

Articles

- Liberal, V., Chen, L., Vengrow, M. [Biostabilization Advances Enable Next-Gen Dx](#) *Genetic Engineering News*. 34 (18): 22 - 23. **2014**.

Talks

- Tabb, M., Singhal, P. [Focus Diagnostics: Enabling decentralized, point-of-care diagnostics through chemical biostabilization](#). Workshop Presentation at Association of Molecular Pathology (AMP) annual meeting **2014**.

Posters

- Browne, C.D., Chen, S., Mattmann, M., Roth, D.M., Ravichandran, R., Lee, F. and Liberal, V. [Pre-analytic Solutions for Liquid Biopsy](#). Poster presentation at American Association for Cancer Research (AACR) Annual Meeting **2016**.
- Liberal, V., Powers, C., Dodson, G., Romero, J., Balcer, H., Singhal, P. [Ambient stabilization of diagnostic PCR and RT-PCR assays using PCRstable® technology](#). Poster presentation at American Association of Clinical Chemistry (AACC) annual meeting, **2015**.
- Liberal, V., Dodson, G., de los Rios, S., Tabb, M., Martin, R. and Muller, R. [PCRstable®: Chemical Stabilization Technology for Ambient PCR-Based Testing](#). Poster presentation at American Society for Human Genetics (ASHG) annual meeting, **2014**.
- Diaz, P.W., Liberal, V., Singhal, P., Wilkinson, S., Huang, W., Raban, R., Chen, L. and Muller, R. [Stabilization of Cytokine Biomarkers in Human Blood](#). Poster presentation at Next Gen Dx Summit Conference, **2014**.
- Diaz, P.W., Desharnais, J., Brewer, K., Whitney, S. and Muller, R. [Development of Stabilizers for Live Cell Preservation at Room Temperature](#). Poster presentation at the Experimental Biology annual conference, **2014**.

Application Notes

- [HawkZ05-based HIV/HCV real-time RT-PCR assays stabilization with PCRstable® technology](#).
- [Influenza real-time RT-PCR assays stabilized with PCRstable® technology](#).
- [Performance of a PCRstable®-stabilized real-time PCR *C. diff* DNA assay](#).
- [Ambient temperature stabilization of a HBV real-time PCR assay using PCRstable® technology](#).

SUSTAINABLE SOLUTIONS/STORAGE AND MANAGEMENT

Articles

- Jensen, G. [Room Temperature Biological Sample Storage](#): Sustainable Stanford: Stanford University Pilot Report. April **2009**.
- Wan, E., Akana, M., Pons, J., Chen, J., Musone, S., Kwok, P.-Y., Liao, W. [Green Technologies for Room Temperature Nucleic Acid Storage](#). *Curr. Issues Mol. Biol.* 12: 135-142. **2010**.
- Application Note: [Increasing Sustainability on University Campuses](#). April **2009**.
- Clement, O., Muller, R., Muller-Cohn, J. [A Warmer Reception](#), *European Pharmaceutical Contractor Magazine*, Dec **2010**.
- Clement, O. [Biological sample storage and management](#), *Lab Manager Magazine*: 26-29. **2009**.

- Doedt, T. [QIAsafe™ DNA - An innovative Anhydrobiosis-based technology for long-term storage of DNA](#). Proceedings of the workshop on long-term storage of DNA material, Aug **2009**.

Posters

- Liberal, V., Stassinopoulos, A., Whitney, S., Wilkinson, S., Huang, W., Muller, R. and Muller-Cohn, J., [Automated biobanking workflow for room temperature collection, transport and storage of human blood samples for molecular RNA and DNA diagnostics](#), ESBB Conference, Verona, Italy, Oct **2013**.
- Perez-Ladag, A., Diaz, P., Ghirmai, S., Wimer, C., Reed, J., Brewer, K., Desharnais, J., Muller-Cohn, J., Muller, R. [A Novel Technology for Stabilizing Eukaryotic Cells Dry at Room Temperature](#). ESBB Conference, Verona, Italy, Oct **2013**.
- Muller, R., Muller-Cohn, J., Liberal, V., Wilkinson, S., Clement, O., Whitney, S., Partha, R., Stasinopoulos, A., Lutfuneesa, S., Huang, W. and Ohgi, S. [Ambient Biostabilization in the Age of Personalized Medicine](#). 5th Biorepository Research Network (BRN) Symposium, Washington DC, Feb 23, **2012**.

DNASTable® AND DNA STABILITY

Articles

- Udtha M., Flores, R., Sanner, J., Nomie, K., Backes, E., Wilbers, L., and Caldwell, J. [The Protection and Stabilization of Whole Blood at Room Temperature](#). *Biopreservation and Biobanking* 12(5): 332-336. doi:10.1089/bio.2014.0026. October **2014**.
- Howlett, S.E., Castillo, H.S., Gioeni, L.J., Robertson, J.M., Donfack, J. [Evaluation of DNASTable® for DNA storage at ambient temperature](#). *Forensic Science International: Genetics* 8 (1): 170–178. **2014**.
- Stevens, D.S., Crudder, C.H., Domingo, G.J. [Post-extraction stabilization of HIV viral RNA for quantitative molecular tests](#). *J. Virol. Methods*. 182(1-2):104-110 **2012**.
- Frippiat, C., Zorbo, S., Leonard, D., Marcotte, A., Chaput, M., Aelbrecht, A., Noel, F. [Evaluation of novel forensic DNA storage methodologies](#), *Forensic Sci. Intl. - Genetics*. 2011 Nov 5 (5):386-92. **2010**.
- Lee, S.B., Crouse, C.A., Kline, M.C. [Optimizing storage and handling of DNA extracts](#). *Forensic Sci. Rev.* 22(2): pp131-144, **2010**.
- Budowle, B., van Daal, A. [Extracting evidence from forensic DNA analyses - Future molecular biology directions](#). *BioTechniques* Special Issue, Vol. 46, No. 5, 339–350. April **2009**.
- Lee, S.B. and Roberts, K. [Saving your samples: Room temperature stabilization of DNA and RNA](#). *Emerging technologies in Forensic Science*, 8-10. **2008**.

Posters

- Smith, E., Wilson, A., Sanderson, J., Hodge, P., Muller, R., Muller-Cohn, J., Shutler, G. [A highly efficient method to concentrate DNA for forensic STR genotyping using DNASTable®](#) Poster presentation at International Symposium on Human Identification (ISHI) 2013, Atlanta, GA, Oct 7-10, **2013**.
- Graziano, S.L., Duda, C.M., Collins, M.L. [DNASTable® Validation Project](#). Poster presentation at International Symposium on Human Identification (ISHI) 2013, Atlanta, GA, Oct 7-10, **2013**.
- Uren, A. and Patel, K. [Room Temperature DNA Storage](#). Poster presentation at the 1st Annual Minnesota Joint Biology Meeting, Minneapolis, MN, Jan 25, **2012**.
- DiNaro, E., Trogon, C., Lee, S.B. [Optimizing DNA Storage at Room Temperature: Teflon® vs. Polypropylene Tubes With and Without Polymers](#). Poster presentation at the 63rd AAFS Meeting, Chicago, IL, Feb **2011**.

- Clabaugh, K., Silva, S., Odigie, K., Fournay, R., Stevens, J., Carmody, G., Coble, M., Loreille, O., Scheible, M., Kline, M., Parsons, T., Pozder, A., Eisenberg, A., Budowle, B., Lee, S.B. [Storage of DNA samples at ambient temperature using DNA-SampleMatrix](#), Poster presented at the 18th Annual International Symposium on Human Identification meeting, Hollywood, CA. Oct, **2007**.

Application Notes

- [Evaluation of Biomatrix DNASTable[®] room temperature DNA storage system](#)
- [DNASTable[®] protects genomic DNA from degradation under high pressure and extreme temperatures above 120°C](#)
- [DNASTable[®] protects plasmid DNA stressed at high temperature](#)
- [DNASTable[®] protects plasmid DNA from UV-C irradiation](#)
- [DNASTable[®] preserves genomic DNA for long-term storage](#)
- [DNASTable[®] preserves plasmid DNA for long-term storage](#)
- [Long-term storage of oligonucleotides in DNASTable[®]](#)
- [DNASTable[®] with the Nanogen[®] Genotyping System](#)
- [Performance of DNASTable[®] with the Illumina[®] Human 610 BeadChip[™]](#)

DNASTable[®] BLOOD (ALSO KNOWN AS QIASAFE[®] DNA BLOOD)

Articles

- Escadafal, C., Faye, O., Sall, A.A., Faye, O., Weidmann, M., Strohmeier, O., von Stetten, F., Drexler, J., Eberhard, M., Niedrig, M. and Patel, P. [Rapid Molecular Assays for the Detection of Yellow Fever Virus in Low-Resource Settings](#). PLoS Negl. Trop. Dis. Mar; 8(3): e2730. **2014**.

Poster

- Doedt, T., de Rozières, S., Kist, R., Heckel, D. and Muller, R.. QIASafe DNA Blood: A New Technology for Ambient Temperature Storage. Poster presentation at the ISBER Annual Meeting & Exhibit, Rotterdam, Netherlands, **2010**.

RNASTable[®] AND RNA STABILITY

Articles

- Howie, B., Sherwood, A.M., Berkebile, A.D., Berka, J., Emerson, R.O., Williamson, D.W., Kirsch, I., Vignali, M., Rieder, M.J., Carlson, C.S., Robins, H.S. [High-throughput pairing of T cell receptor \$\alpha\$ and \$\beta\$ sequences](#). Sci Transl Med. Aug 19;7(301):301ra131.doi: 10.1126/scitranslmed.aac5624. **2015**
- S Debernardi, NJ Massat, TP Radon, A Sangaralingam [Noninvasive urinary miRNA biomarkers for early detection of pancreatic adenocarcinoma](#) Am J Cancer Res;5(11):3455-3466. **2015**
- Howie, B., Sherwood, AM, Berkebile, AD, Berka, J., Emerson, RO, Williamson, DW, Kirsch, I, Vignali, M., Rieder, MJ, Carlson, CS, Robins, HS. [High-throughput pairing of T cell receptor \$\alpha\$ and \$\beta\$ sequences](#). Sci Transl Med. 7(301):301ra131. **2015**.
- Stevenson, H.S., Wang, Y., Muller, R., and Edelman D.C. [Long-term Stability of Total RNA in RNASTable[®] as Evaluated by Expression Microarray](#) *Biopreservation and Biobanking*. 13(2): 114-122. **2015**.
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- Seelenfreund E, Robinson WA, Amato CM, Tan A-C, Kim J, et al. [Long Term Storage of Dry versus Frozen RNA for Next Generation Molecular Studies](#). *PLoS ONE* 9(11): e111827. doi:10.1371/journal.pone.0111827. **2014**.
- Escadafal, C., Faye,O., Sall,A.A., Faye,O., Weidmann,M., Strohmeier,O., von Stetten, F., Drexler, J., Eberhard,M., Niedrig,M. and Patel, P. [Rapid Molecular Assays for the Detection of Yellow Fever Virus in Low-Resource Settings](#). *PLoS Negl. Trop. Dis.* Mar; 8(3): e2730. **2014**.
- Crowder, C.D., Carolan, H.E., Rounds, M.A., Honig, V., Mothes, B., Haag, H., Nolte, O., Luft, B.J., Grubhoffer, L., Ecker, D.J., Schutzer, S.E. and Eshoo, M.W., [Prevalence of Borrelia miyamotoi in Ixodes Ticks in Europe and the United States](#). *Emerging & Infectious Diseases* 20 (10) **2014**.
- Mertenskötter, A., Keshet, A., Gerke, P. and Paul, R.J. [The p38 MAPK PMK-1 shows heat-induced nuclear translocation, supports chaperone expression, and affects the heat tolerance of Caenorhabditis elegans](#). *Cell Stress and Chaperones*. DOI 10.1007/s12192-012-0382-y. **2013**
- Hull, J.J., Geib, S.M., Fabrick,J.A., Brent, C.S. [Sequencing and De Novo Assembly of the Western Tarnished Plant Bug \(Lygus hesperus\) Transcriptome](#). *PLoS ONE* 8(1): e55105. doi:10.1371/journal.pone.0055105 **2013**.
- Ohgi, S., Coulon, L., Muller, R., Muller-Cohn, J., Clement, O. [Stabilizing RNA at room temperature stabilization in RNAstable®](#), *Biotechniques*, 48(6), 470, **2010**.
- Hernandez GE, Mondala TS and Head SR, [Assessing a novel room temperature RNA storage medium for compatibility in microarray gene expression analysis](#). *Biotechniques*, 47(2): 667-670. **2009**.
- Ohgi, S. [Making RNA more durable at room temperature](#). *Genetic Engineering and Biotechnology News*, 27: (18). **2007**.

Application Notes

- [RNA Stabilization at Room Temperature in RNAstable®](#)
- [Improved QPCR Analysis Following Storage in RNAstable®](#), by Rhada Gopal and Fernando P. Monroy
- [Microarray Analysis of RNA in RNAstable®](#), Vince Funari, Ph. D., Cedars-Sinai Medical Center, Los Angeles, CA.
- [miRNA Stabilization in RNAstable®](#)
- [Stabilization of poly\(A\) mRNA transcripts in RNAstable®](#)

RNAgard® BLOOD AND RNA STABILITY

Articles

- Donohue, D., Gautam, A., Ann-Miller, S., Hammamieh, R. and Jett, M. [Identifying and Correcting RNA Preservation Differences in Human Blood Samples](#) *FASEB J.*, vol. 29 no. 1 Supplement 562.20.

DNAgard® TISSUE AND CELLS

Posters

- Claassens, O., Irving, J., Stanger, J., Ford, G., Tooth, R., Harrison, K. [Storage of sperm samples at room temperature for DNA fragmentation testing](#). Fertility Society of Australia Conference **2013**.

- Nordstrom, L., Hostetter, G., Watanabe, A., Syring, M., McDonough, W., Berens, M., Wilkinson, S.P., Muller, R. and Muller-Cohn, J., [Dry Storage of Biospecimens for an East Asian Glioma GWAS Study](#). ISBER Conference, **2011**.
- Wilkinson, S.P., Law, B., Whitney, S., Coulon, L., Clement, O., Shireen, L., Stassinopoulos, A., Muller-Cohn, J. and Muller, R., [Innovative technology to stabilize DNA at room temperature in tissues and cells](#). Poster presentation at the Experimental Biology meeting **2010**.
- Wilkinson, S.P., et. al., [Impact of collection, stabilization and isolation of bovine ear punches on high and low density genotyping arrays](#). Poster presentation at the 32nd Conference of the International Society of Animal Genetics (ISAG), Edinburgh, Scotland, July 26-30, **2010**.

Application Notes

- Hřibová, E., Christelová, P., Čížková, J., Dolezel, J. [DNAgard® Tissues & Cells preserves plant tissue at room temperature](#). **2011**.
- Wilkinson, S.P., de Rozieres, S., Muller, R. and Coulon, L. [Room temperature preservation of gDNA quality in tissue specimens and culture cells with DNAgard®](#) **2010**.

DNAgard® Blood

- Wilkinson, S.P., Whitney, S., Stassinopoulos, A., Muller, R., Muller-Cohn, J., Clement, O. **Room temperature stabilization of genomic DNA in whole blood**. ISBER Conference. **2011**
- Wilkinson, S.P., Stassinopoulos, A., Whitney, S., Shireen, L., Ohgi, S., Muller, R., Muller-Cohn, J. and Clement, O. **Gene expression and genomic DNA stabilization in whole blood stored at room temperature**. CHI Molecular Medicine Tri-conference, San Francisco, CA. **2011**.

DNAgard® Saliva *HT*

- Sunni, M., Noble, J.A., Yu, L., Mahamed, Z., Lane, J.A., Dhunkal, A.M., Bellin, M.D., Nathan, B., Kylo, J., Abuzzahab, M.J., Gottlieb, P.A., Babu, S., Armstrong, T. and Moran, A. [Predominance of DR3 in Somali children with type 1 diabetes in the twin cities, Minnesota](#). Pediatric Diabetes. doi: 10.1111/pedi.12369.

DNAgard® Saliva

- Ghirmai, S., Huang, W., Whitney, S., Muller, R. and Muller-Cohn, J. [Stabilization of DNA from Saliva at Ambient Temperature](#). Poster presentation at ISBER, **2011**.

ADDITIONAL WEB LINKS REFERENCING BIOMATRICA'S TECHNOLOGY

- Joint Genome Institute, US Dept. of Energy, RNAstable Procedure, <http://1ofdmq2n8tc36m6i46scovo2e.wpengine.netdna-cdn.com/wp-content/uploads/2013/11/JGI-RNA-Stable-procedure-2016.pdf>
- National Institute of Standards and Technology, NIST Human Identity Project: http://www.cstl.nist.gov/strbase/pub_pres/Vallone_NISTupdateCODIS_Oct2007.pdf
- Stanford University, Room Temperature Biological Sample Storage: https://sustainable.stanford.edu/sites/default/files/documents/Stanford_Room_Temp_Pilot_May09.pdf
- Bitesize Bio: <http://bitesizebio.com/articles/5-products-that-could-make-your-lab-life-easier/>
- UCSB Winning the Cold War with Room Temperature Biological Sample Storage: http://sustainability.ucsb.edu/2009/conference/presentations/energy_innovative%20technologies%20in%20labs_Susan%20Kulakowski%20and%20Jensen.pdf