

**Fry Laboratories, LLC - Result Report**15720 N. Greenway-Hayden Loop Suite 3
Scottsdale, Az 85260**FRY LABORATORIES, L.L.C.**

FINAL COPY

CLIA#03D1026968 info@frylabs.com

866.927.8075(p) 480.656.4932(f) 480.292.8457(billing)

WWW.FRYLABS.COM

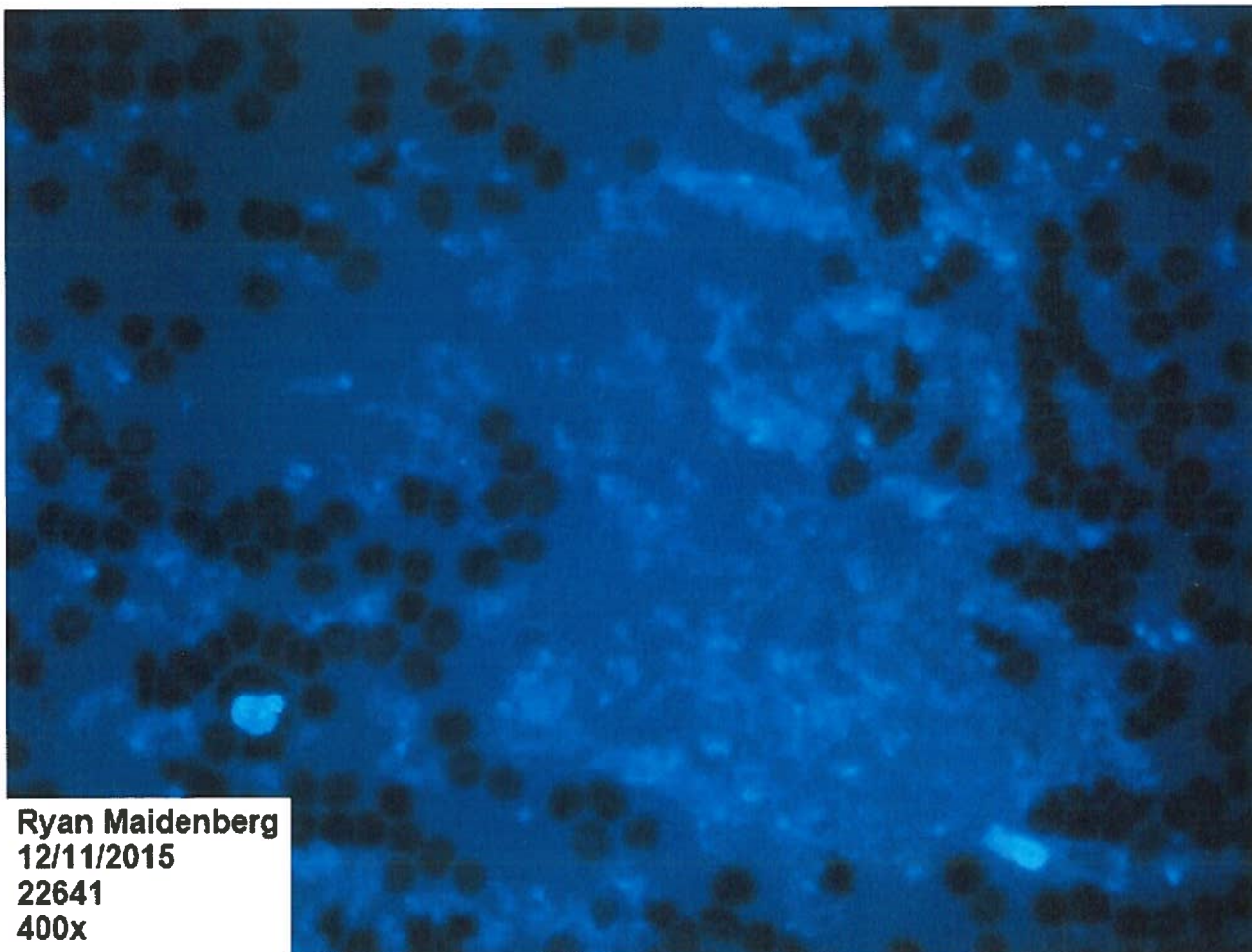
Patient: Maidenberg, Ryan
Patient #: 43738
Doctor: Winstrom, MargitBirth: 1/23/1990
Age: 25 years
Gender: MaleAcc #: 22641
Collection Date: 12/10/2015 3:00 PM
Received in Lab: 12/11/2015 10:44 AM DM

Test Name	Result	Units	Flag	Reference Range
-----------	--------	-------	------	-----------------

Advanced Stains

Run by: DM on 12/11/2015 11:46 AM

Fluorescent & Enrichment Stains (Advanced Stain Test)

**Ryan Maidenberg**
12/11/2015
22641
400x

Notes: DETECTED (FEW) - Few biofilm community-like structures, neutrophil extracellular traps, and/or organisms were observed using a fluorescent DNA staining technology (1-8) or Giemsa using enrichment via centrifugation (9, 10). These findings are suggestive of an unspecified infectious and/or parasitic disease. The magnification is listed on the image above. References: (1)An alternative interpretation of nanobacteria-induced biomineralization. PNAS, 2000 Aug; 97 (21):11511-15 Cisar JO, et al. (2)Biofilm Formation by Pneumocystis spp. Eukary Cell, 2009 Feb; 8 (2):197-206 Cushion MT, et al. (3)Evolving concepts in biofilm infections. Cell Microbio, 2009 Apr; Microreview, Hall-Stoodley L, Stoodley P. (4)Evidence of nanobacterial-like structures in calcified human arteries and cardiac valves. Am J Physiol Heart Circ Physiol, 2004 May; 287:H1115-24 Miller VM, et al. (5)A Stochastic Mechanism for Biofilm Formation by Mycoplasma pulmonis. J of Bacteriol, 2007 Mar; 189 (5):1905-13 Simmons WL, et al. (6)Molecular and Imaging Techniques for Bacterial Biofilms in Joint Arthroplasty Infections. Clin Ortho and Rel Res, 2005 437: 31-40 Stoodley PS, et al. (7)Leishmania amazonensis promastigotes induce and are killed by neutrophil extracellular traps. PNAS, 2009 Apr; 106(16):6748-53 Guimaraes-Costa AB, et al. (8)Biofilm Formation by the Fungal Pathogen Candida albicans: Development, Architecture, and Drug Resistance. J of Bacteriol, 2001 Sept; 183(18):5385-94 Chandra J, et al. (9)Differential Centrifugation and Infectivity of Babesia rodhaini Freed by Continuous-Flow Ultrasonication. J of Parasitol, 1978 Jun; 64 (3):554-6 Abdalla HS, et al. (10)Continuous in vitro propagation of the malaria parasite Plasmodium vivax. PNAS, 1997 Jun; 94 (13):6786-91 Golenda CF, et al. Stain quality is verified by internal controls for each run and external controls for each stain batch. This test is not FDA approved and is for research or

Originally Reported On: 1/11/2016 7:39 AM

Printed: 1/11/2016 7:39 AM

Page 1 of 4

Accession: 22641 Patient ID: 43738

Lab Results For: Ryan Maidenberg

STAT[S] Corrected [C] Added [A]

**Fry Laboratories, LLC - Result Report**

15720 N. Greenway-Hayden Loop Suite 3

Scottsdale, Az 85260

FRY LABORATORIES, L.L.C.

FINAL COPY

CLIA#03D1026968 info@frylabs.com

866.927.8075(p) 480.656.4932(f) 480.292.8457(billing)

WWW.FRYLABS.COM

Patient:	Maidenberg, Ryan	Birth:	1/23/1990	Acc #:	22641
Patient #:	43738	Age:	25 years	Collection Date:	12/10/2015 3:00 PM
Doctor:	Winstrom, Margit	Gender:	Male	Received in Lab:	12/11/2015 10:44 AM DM

Test Name	Result	Units	Flag	Reference Range
-----------	--------	-------	------	-----------------

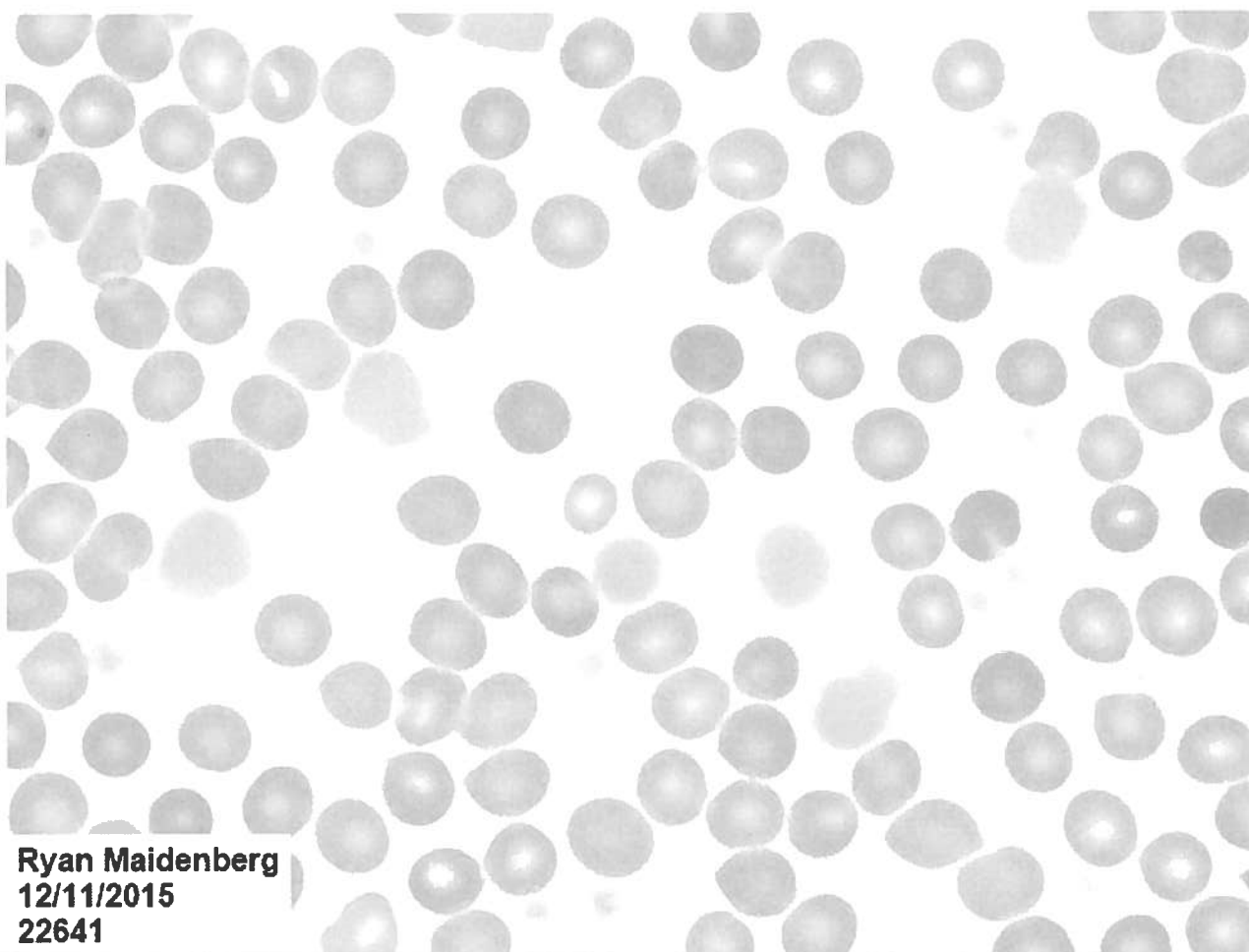
Advanced Stains

Run by: DM on 12/11/2015 11:46 AM

*investigational use only. Patent Pending 2009. Fry Laboratories, LLC.***Special Stains**

Run by: DM on 12/11/2015 12:55 PM

Special Stains (Stained Blood Film Test)



Ryan Maidenberg
12/11/2015
22641

Notes: No organisms observed.

References: (1)Boulouis HJ, Gang C, Henn J, Kasten R, Chomel BB. Factors associated with the rapid emergence of zoonotic Bartonella infections. Vet. Res. 36(2005) pg383-410. Harrison's Principles of Internal Medicine 15th edition. 2001. Nelson RW, Couto CG. Small Animal Internal Medicine 3rd edition. pg1233. Tilley LP, Smith FWK. The 5-minute Veterinary Consult 2nd edition. Walker TS, Winkler HH. Bartonella bacilliformis: Colonial Types and Erythrocyte Adherence. Infect immune. 1981 Jan; 31 (1):480-86. Williams and Wilkins 2001 pg750. (2)Outbreaks of Hemotropic Mycoplasma Infections in China. Emerg Infect Dis. 2009 Jul. Hu Z, et al. Hemotropic mycoplasmas (hemoplasmas): a review and new insights into pathogenic potential. Vet. Clin. Path. 33(2004) pg2-13 Messick JB. Mycoplasma ovis comb. Nov. (formerly Eperythrozoon ovis), an eperythrocyclic agent of haemolytic anaemia in sheep and goats. Internat J. of Sys and Evol Microbio. 54(2004) pg365-71 Neimark H, et al. From Haemobartonella to hemoplasma: Molecular methods provide new insights. Vet. Microbio. 125(2007) pg197-209 Willi B, et al. (3)Molecular and enrichment studies by Fry Laboratories show that these organisms could be Protozoal, Phylum unknown. Stain quality is verified by internal controls for each run and external controls for each stain batch. This test is not FDA approved and is for research use only.

Originally Reported On: 1/11/2016 7:39 AM

Printed: 1/11/2016 7:39 AM

Page 2 of 4

STAT[S] Corrected [C] Added [A]

Accession: 22641 Patient ID: 43738

Lab Results For: Ryan Maidenberg

**Fry Laboratories, LLC - Result Report**

15720 N. Greenway-Hayden Loop Suite 3

Scottsdale, Az 85260

FRY LABORATORIES, L.L.C.

FINAL COPY

CLIA#03D1026968 info@frylabs.com

866.927.8075(p) 480.656.4932(f) 480.292.8457(billing)

WWW.FRYLABS.COM

Patient:	Maidenberg, Ryan	Birth:	1/23/1990	Acc #:	22641
Patient #:	43738	Age:	25 years	Collection Date:	12/10/2015 3:00 PM
Doctor:	Winstrom, Margit	Gender:	Male	Received in Lab:	12/11/2015 10:44 AM DM

Test Name	Result	Units	Flag	Reference Range
-----------	--------	-------	------	-----------------

Protomycxzoa (FL1953) PCR

Run by: DSM on 12/22/2015 10:05 AM

Protomycxzoa (FL1953) by PCR

ABNORMAL

INDETERMINATE, PCR inhibitors present

Not Detected

DETECTED - DNA sequence specific for Protomycxzoa (FL1953) was found at detectable levels in the patient sample utilizing a PCR based assay. A "DETECTED" result should be considered in conjunction with clinical presentation and additional diagnostic tests prior to establishing a diagnosis.

NOT DETECTED - DNA sequence specific for Protomycxzoa (FL1953) was not found at detectable levels in the patient sample utilizing a PCR based assay. A "NOT DETECTED" result should be considered in conjunction with clinical presentation and additional diagnostic tests prior to establishing a diagnosis. The threshold of detection has not been established for this assay.

This test uses a kit/reagent designated by the manufacturer as for research use only, not for clinical use. Fry Laboratories, LLC developed this test or some of its components. The performance characteristics of this test have been validated by Fry Laboratories, LLC. It has not been cleared or approved by the U.S. Food and Drug Administration. No international standard is currently available for the calibration of this assay. The results are not intended to be used as the sole means for clinical diagnosis or patient management decisions. The current status of Protomycxzoa (FL1953) is undergoing scientific inquiry, therefore the causation/correlation with specific disease processes and treatment has yet to be determined fully. For additional information regarding Protomycxzoa (FL1953) research contact the laboratory. Patent Pending 2009, 2010, and 2011 Fry Laboratories, LLC.

Pan-Bacterial Metagenomics

Run by: DM on 12/15/2015 11:00 AM

Pan-Bacterial Metagenomics by Sequencing

SEE ATTACHED SEQUENCE REPORT

This test uses a kit/reagent designated by the manufacturer as for research use only, not for clinical use. Fry Laboratories, LLC developed this test or some of its components. The performance characteristics of this test are still undergoing validation and verification by Fry Laboratories, LLC. It has not been cleared or approved by the U.S. Food and Drug Administration. No international standard is currently available for the calibration of this assay. The results are not intended to be used as the sole means for clinical diagnosis or patient management decisions. Sequence results are considered proprietary and Fry Laboratories, LLC may retain patent rights. Patent Pending 2013 Fry Laboratories, LLC. Results are not representative of standard patient test results as it was performed as research. This assay was performed on an investigational and research basis and care should be taken when interpreting these results in combination with diagnostic tests.

Pan-Protozoal Metagenomics

Run by: DM on 1/6/2015 7:39 AM

Pan-Protozoal Metagenomics by Sequencing

SEE ATTACHED SEQUENCE REPORT

This test uses a kit/reagent designated by the manufacturer as for research use only, not for clinical use. Fry Laboratories, LLC developed this test or some of its components. The performance characteristics of this test are still undergoing validation and verification by Fry Laboratories, LLC. It has not been cleared or approved by the U.S. Food and Drug Administration. No international standard is currently available for the calibration of this assay. The results are not intended to be used as the sole means for clinical diagnosis or patient management decisions. Sequence results are considered proprietary and Fry Laboratories, LLC may retain patent rights. Patent Pending 2013 Fry Laboratories, LLC. Results are not representative of standard

Originally Reported On: 1/11/2016 7:39 AM

Printed: 1/11/2016 7:39 AM

Page 3 of 4

Accession: 22641 Patient ID: 43738

Lab Results For: Ryan Maidenberg

STAT[S] Corrected [C] Added [A]

**Fry Laboratories, LLC - Result Report**15720 N. Greenway-Hayden Loop Suite 3
Scottsdale, Az 85260

CLIA#03D1026968 info@frylabs.com

866.927.8075(p) 480.656.4932(f) 480.292.8457(billing)

FRY LABORATORIES, L.L.C.**WWW.FRYLABS.COM**

FINAL COPY

Patient:	Maidenberg, Ryan	Acc #:	22641
Patient #:	43738	Birth:	1/23/1990
Doctor:	Winstrom, Margit	Age:	25 years
		Gender:	Male
		Collection Date:	12/10/2015 3:00 PM
		Received in Lab:	12/11/2015 10:44 AM DM

Test Name	Result	Units	Flag	Reference Range
Pan-Protozoal Metagenomics				Run by: DM on 1/6/2015 7:39 AM
patient test results as it was performed as research. This assay was performed on an investigational and research basis and care should be taken when interpreting these results in combination with diagnostic tests.				

Reviewed by: Dr. Stephen E. Fry, M.S., M.D., Laboratory Director

Originally Reported On: 1/11/2016 7:39 AM

Printed: 1/11/2016 7:39 AM

Page 4 of 4

STAT[S] Corrected [C] Added [A]

Accession: 22641 Patient ID: 43738

Lab Results For: Ryan Maidenberg

**Fry Laboratories, LLC - Result Report**

15720 N. Greenway-Hayden Loop Suite 3

Scottsdale, Az 85260

CLIA#03D1026968 info@frylabs.com

866.927.8075(p) 480.656.4932(f) 480.292.8457(billing)

FRY LABORATORIES, L.L.C.**WWW.FRYLABS.COM**

Patient: Maidenberg, Ryan	Sample #: 22641-12207	Sample Type: Blood
Doctor: Winstrom, Margit	Birth: 1/23/1990	Collection Date: 12/10/2015
Gender: Male	Prepared By: DM	Completion Date: 12/16/2015

Pan-Bacterial Metagenomics

- NO SIGNIFICANT SEQUENCE RESULTS – No significant results were obtained that met internal quality standards. A “NO SIGNIFICANT SEQUENCE RESULTS” result should be considered in conjunction with clinical presentation and additional diagnostic tests prior to establishing a diagnosis.

Notes

Sequence Information: 57,085 sequence reads were obtained for the given sample. The longest 14,483 sequences were analyzed and compared to all available prokaryotic species. Results Confidence Profile: At the provided quality control cut-off it is estimated that >95% of the sequence reads correctly list the genus, while >30% of the sequence reads correctly list the species.

This test uses a kit/reagent designated by the manufacturer as for research use only, not for clinical use. Fry Laboratories, LLC developed this test or some of its components. The performance characteristics of this test are still undergoing validation and verification by Fry Laboratories, LLC. It has not been cleared or approved by the U.S. Food and Drug Administration. No international standard is currently available for the calibration of this assay. The results are not intended to be used as the sole means for clinical diagnosis or patient management decisions. The following genera have been reported as difficult to identify using 16S sequencing: Aeromonas, Bacillus, Bordetella, Burkholderia, Campylobacter, Edwardsiella, Enterobacter, Neisseria, Pseudomonas, and Streptococcus. Sequence results are considered proprietary and Fry Laboratories, LLC may retain patent rights. Patent Pending 2013 Fry Laboratories, LLC. This assay was performed on an investigational and research basis and care should be taken when interpreting these results in combination with diagnostic tests. Reviewed by S. Fry, M.D.

**Fry Laboratories, LLC - Result Report**

15720 N. Greenway-Hayden Loop Suite 3

Scottsdale, Az 85260

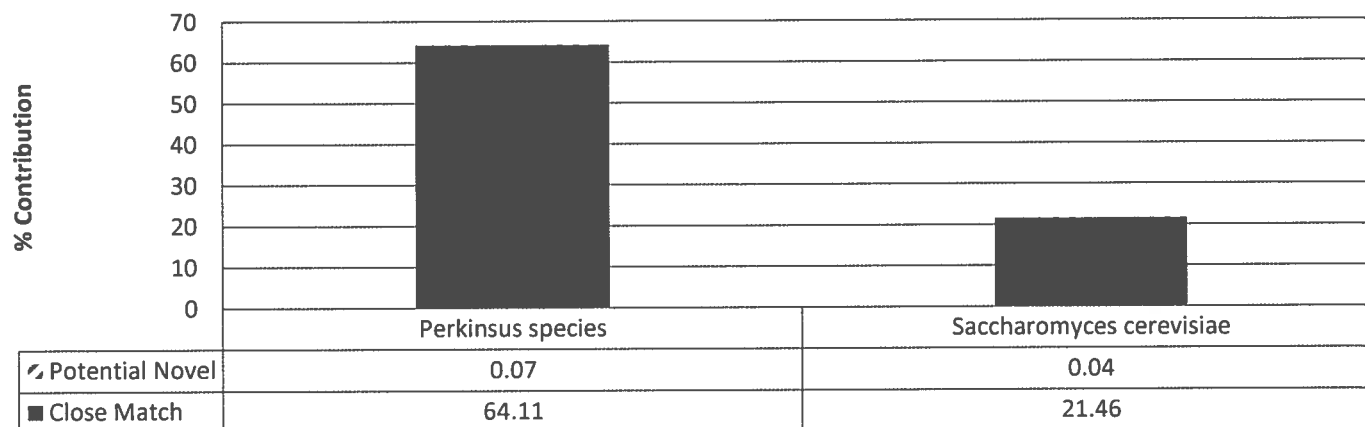
CLIA#03D1026968 info@frylabs.com

866.927.8075(p) 480.656.4932(f) 480.292.8457(billing)

FRY LABORATORIES, L.L.C.

WWW.FRYLABS.COM

Patient: Maidenberg, Ryan	Sample #: 22641-12770	Sample Type: Blood
Doctor: Winstrom, Margit	Birth: 1/23/1990	Collection Date: 12/10/2015
Gender: Male	Prepared By: DM/DSM	Completion Date: 1/06/2016

Pan-Protozoal Metagenomics**Complete Significant Contribution**

Species Name	Close Match	Potential Novel	Total Percent	Match Count	Novel Count	Total Count
Perkinsus species	64.11	0.07	64.18	2901	3	2904
Saccharomyces cerevisiae	21.46	0.04	21.5	971	2	973

Notes

Sequence Information: 47,231 sequence reads were obtained for the given sample. The longest 5,655 sequences were analyzed and compared to all available eukaryotic species. *: Multiple regions were sequenced for the organism counts indicated by an asterisk. Results Confidence Profile: At the provided quality control cut-off it is estimated that >95% of the sequence reads correctly list the genus, while >30% of the sequence reads correctly list the species.

This test uses a kit/reagent designated by the manufacturer as for research use only, not for clinical use. Fry Laboratories, LLC developed this test or some of its components. The performance characteristics of this test are still undergoing validation and verification by Fry Laboratories, LLC. It has not been cleared or approved by the U.S. Food and Drug Administration. No international standard is currently available for the calibration of this assay. The results are not intended to be used as the sole means for clinical diagnosis or patient management decisions. Phylogenetically the following genera likely should be considered same genus, but are not due to historical or medical terminology considerations and may therefore be cross genus identified: Escherichia and Shigella. Sequence results are considered proprietary and Fry Laboratories, LLC may retain patent rights. Patent Pending 2013 Fry Laboratories, LLC. Results are not representative of standard patient test results as it was performed as research. This assay was performed on an investigational and research basis and care should be taken when interpreting these results in combination with diagnostic tests. Reviewed by S. Fry, M.D.

**Fry Laboratories, LLC - Result Report**15720 N. Greenway-Hayden Loop Suite 3
Scottsdale, Az 85260**FRY LABORATORIES, L.L.C.**

FINAL COPY

CLIA#03D1026968 info@frylabs.com

866.927.8075(p) 480.656.4932(f) 480.292.8457(billing)

WWW.FRYLABS.COM

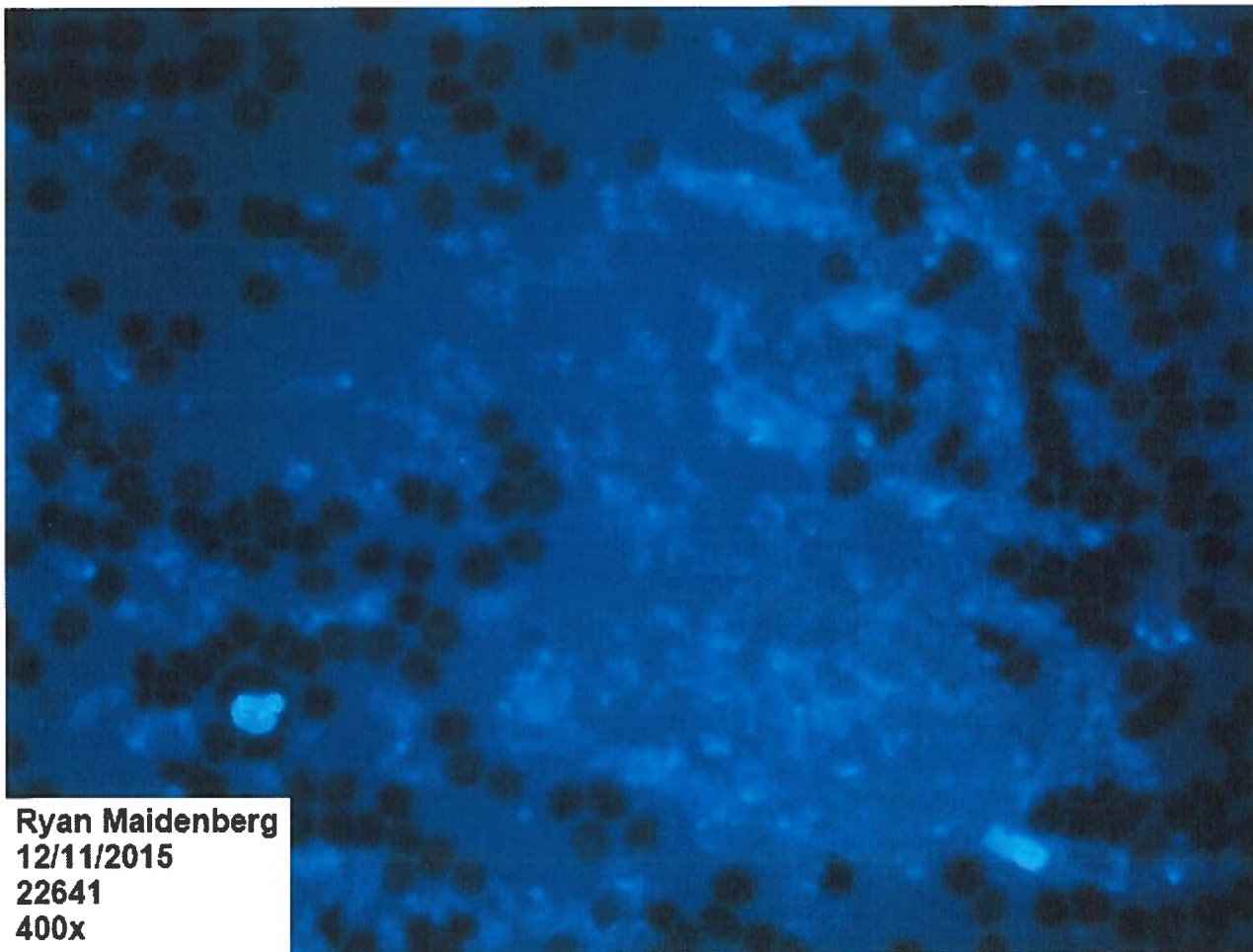
Patient: Maidenberg, Ryan
Patient #: 43738
Doctor: Winstrom, MargitBirth: 1/23/1990
Age: 25 years
Gender: MaleAcc #: 22641
Collection Date: 12/10/2015 3:00 PM
Received in Lab: 12/11/2015 10:44 AM DM

Test Name	Result	Units	Flag	Reference Range
-----------	--------	-------	------	-----------------

Advanced Stains

Run by: DM on 12/11/2015 11:46 AM

Fluorescent & Enrichment Stains (Advanced Stain Test)

Ryan Maidenberg
12/11/2015
22641
400x

Notes: DETECTED (FEW) - Few biofilm community-like structures, neutrophil extracellular traps, and/or organisms were observed using a fluorescent DNA staining technology (1-8) or Giemsa using enrichment via centrifugation (9, 10). These findings are suggestive of an unspecified infectious and/or parasitic disease. The magnification is listed on the image above. References: (1)An alternative interpretation of nanobacteria-induced biomineralization. PNAS, 2000 Aug; 97 (21):11511-15 Cisar JO, et al. (2)Biofilm Formation by *Pneumocystis* spp. Eukary Cell, 2009 Feb; 8 (2):197-206 Cushion MT, et al. (3)Evolving concepts in biofilm infections. Cell Microbio, 2009 Apr; Microreview, Hall-Stoodley L, Stoodley P. (4)Evidence of nanobacterial-like structures in calcified human arteries and cardiac valves. Am J Physiol Heart Circ Physiol, 2004 May; 287:H1115-24 Miller VM, et al. (5)A Stochastic Mechanism for Biofilm Formation by *Mycoplasma pulmonis*. J of Bacteriol, 2007 Mar; 189 (5):1905-13 Simmons WL, et al. (6)Molecular and Imaging Techniques for Bacterial Biofilms in Joint Arthroplasty Infections. Clin Ortho and Rel Res, 2005 437: 31-40 Stoodley PS, et al. (7)*Leishmania amazonensis* promastigotes induce and are killed by neutrophil extracellular traps. PNAS, 2009 Apr; 106(16):6748-53 Guimaraes-Costa AB, et al. (8)Biofilm Formation by the Fungal Pathogen *Candida albicans*: Development, Architecture, and Drug Resistance. J of Bacteriol, 2001 Sept; 183(18):5385-94 Chandra J, et al. (9)Differential Centrifugation and Infectivity of *Babesia rodhaini* Freed by Continuous-Flow Ultrasonication. J of Parasitol, 1978 Jun; 64 (3):554-6 Abdalla HS, et al. (10)Continuous in vitro propagation of the malaria parasite *Plasmodium vivax*. PNAS, 1997 Jun; 94 (13):6786-91 Golenda CF, et al. Stain quality is verified by internal controls for each run and external controls for each stain batch. This test is not FDA approved and is for research or

Originally Reported On: 1/11/2016 7:39 AM

Printed: 1/11/2016 7:39 AM

Page 1 of 4

Accession: 22641 Patient ID: 43738

Lab Results For: Ryan Maidenberg

STAT[S] Corrected [C] Added [A]

**Fry Laboratories, LLC - Result Report**

15720 N. Greenway-Hayden Loop Suite 3

Scottsdale, Az 85260

FRY LABORATORIES, L.L.C.

FINAL COPY

CLIA#03D1026968 info@frylabs.com

866.927.8075(p) 480.656.4932(f) 480.292.8457(billing)

WWW.FRYLABS.COM

Patient:	Maidenberg, Ryan	Birth:	1/23/1990	Acc #:	22641
Patient #:	43738	Age:	25 years	Collection Date:	12/10/2015 3:00 PM
Doctor:	Winstrom, Margit	Gender:	Male	Received in Lab:	12/11/2015 10:44 AM DM

Test Name	Result	Units	Flag	Reference Range
-----------	--------	-------	------	-----------------

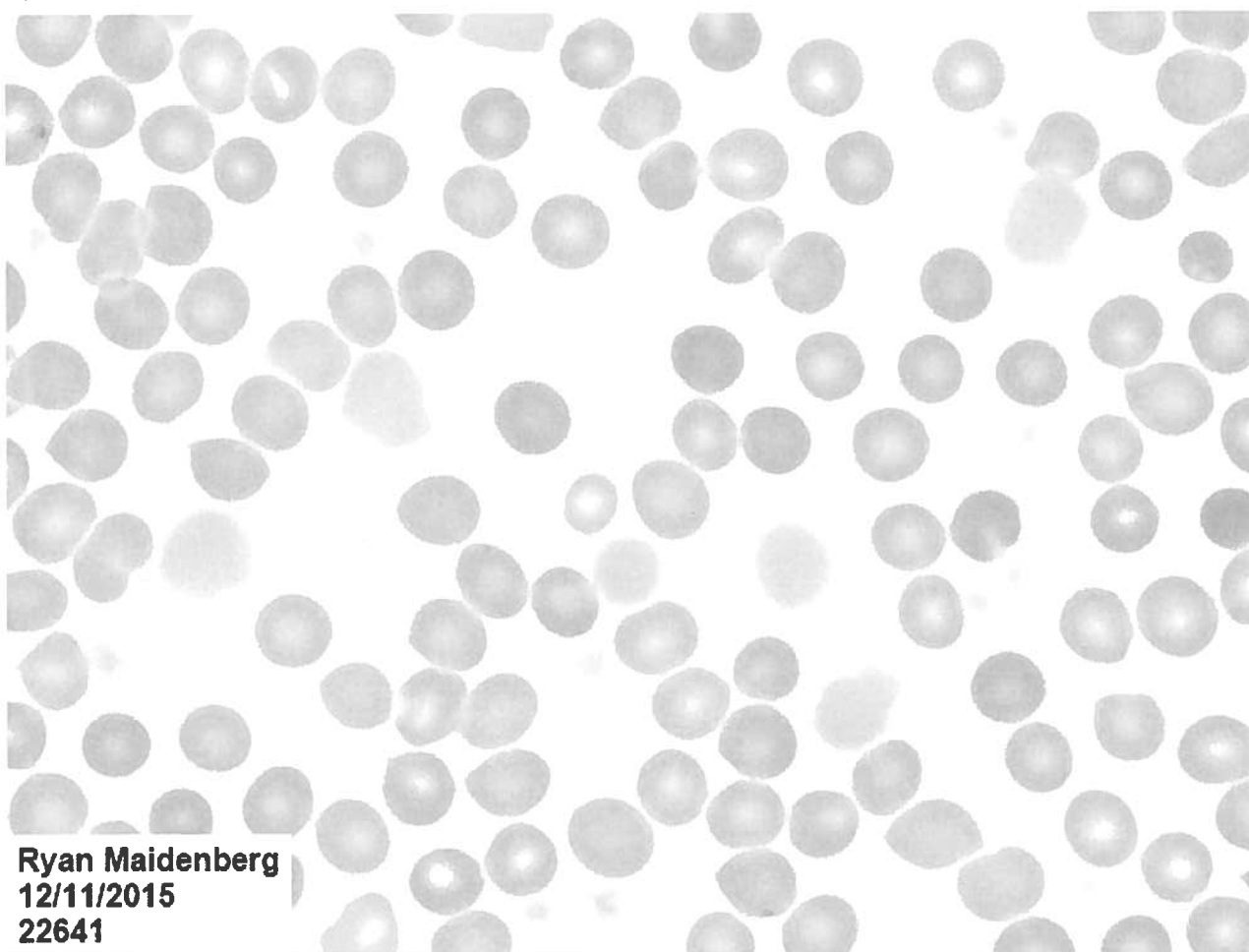
Advanced Stains

Run by: DM on 12/11/2015 11:46 AM

*Investigational use only. Patent Pending 2009. Fry Laboratories, LLC.***Special Stains**

Run by: DM on 12/11/2015 12:55 PM

Special Stains (Stained Blood Film Test)



Ryan Maidenberg
12/11/2015
22641

Notes: No organisms observed.

References: (1)Boulouis HJ, Gang C, Henn J, Kasten R, Chomel BB. Factors associated with the rapid emergence of zoonotic Bartonella infections. Vet. Res. 36(2005) pg383-410. Harrison's Principles of Internal Medicine 15th edition. 2001. Nelson RW, Couto CG. Small Animal Internal Medicine 3rd edition. pg1233. Tilley LP, Smith FWK. The 5-minute Veterinary Consult 2nd edition. Walker TS, Winkler HH. Bartonella bacilliformis: Colonial Types and Erythrocyte Adherence. Infect immune. 1981 Jan; 31 (1):480-86. Williams and Wilkins 2001 pg750. (2)Outbreaks of Hemotropic Mycoplasma Infections in China. Emerg Infect Dis. 2009 Jul. Hu Z, et al. Hemotropic mycoplasmas (hemoplasmas): a review and new insights into pathogenic potential. Vet. Clin. Path. 33(2004) pg2-13 Messick JB. Mycoplasma ovis comb. Nov. (formerly Eperythrozoon ovis), an eperythrocyclic agent of haemolytic anaemia in sheep and goats. Internat J. of Sys and Evol Microbio. 54(2004) pg365-71 Neimark H, et al. From Haemobartonella to hemoplasma: Molecular methods provide new insights. Vet. Microbio. 125(2007) pg197-209 Willi B, et al. (3)Molecular and enrichment studies by Fry Laboratories show that these organisms could be Protozoal, Phylum unknown. Stain quality is verified by internal controls for each run and external controls for each stain batch. This test is not FDA approved and is for research use only.

Originally Reported On: 1/11/2016 7:39 AM

Printed: 1/11/2016 7:39 AM

Page 2 of 4

STAT[S] Corrected [C] Added [A]

Accession: 22641 Patient ID: 43738

Lab Results For: Ryan Maidenberg

**Fry Laboratories, LLC - Result Report**

15720 N. Greenway-Hayden Loop Suite 3

Scottsdale, Az 85260

FRY LABORATORIES, L.L.C.

FINAL COPY

CLIA#03D1026968 info@frylabs.com

866.927.8075(p) 480.656.4932(f) 480.292.8457(billing)

WWW.FRYLABS.COM

Patient:	Maidenberg, Ryan	Acc #:	22641
Patient #:	43738	Birth:	1/23/1990
Doctor:	Winstrom, Margit	Age:	25 years
		Gender:	Male
		Collection Date:	12/10/2015 3:00 PM
		Received in Lab:	12/11/2015 10:44 AM DM

Test Name	Result	Units	Flag	Reference Range
Protomycxzoa (FL1953) PCR				Run by: DSM on 12/22/2015 10:05 AM
Protomycxzoa (FL1953) by PCR			ABNORMAL	
INDETERMINATE, PCR inhibitors present				

Not Detected

DETECTED - DNA sequence specific for Protomycxzoa (FL1953) was found at detectable levels in the patient sample utilizing a PCR based assay. A "DETECTED" result should be considered in conjunction with clinical presentation and additional diagnostic tests prior to establishing a diagnosis.

NOT DETECTED - DNA sequence specific for Protomycxzoa (FL1953) was not found at detectable levels in the patient sample utilizing a PCR based assay. A "NOT DETECTED" result should be considered in conjunction with clinical presentation and additional diagnostic tests prior to establishing a diagnosis. The threshold of detection has not been established for this assay.

This test uses a kit/reagent designated by the manufacturer as for research use only, not for clinical use. Fry Laboratories, LLC developed this test or some of its components. The performance characteristics of this test have been validated by Fry Laboratories, LLC. It has not been cleared or approved by the U.S. Food and Drug Administration. No international standard is currently available for the calibration of this assay. The results are not intended to be used as the sole means for clinical diagnosis or patient management decisions. The current status of Protomycxzoa (FL1953) is undergoing scientific inquiry, therefore the causation/correlation with specific disease processes and treatment has yet to be determined fully. For additional information regarding Protomycxzoa (FL1953) research contact the laboratory. Patent Pending 2009, 2010, and 2011 Fry Laboratories, LLC.

Pan-Bacterial Metagenomics

Run by: DM on 12/15/2015 11:00 AM

Pan-Bacterial Metagenomics by Sequencing

SEE ATTACHED SEQUENCE REPORT

This test uses a kit/reagent designated by the manufacturer as for research use only, not for clinical use. Fry Laboratories, LLC developed this test or some of its components. The performance characteristics of this test are still undergoing validation and verification by Fry Laboratories, LLC. It has not been cleared or approved by the U.S. Food and Drug Administration. No international standard is currently available for the calibration of this assay. The results are not intended to be used as the sole means for clinical diagnosis or patient management decisions. Sequence results are considered proprietary and Fry Laboratories, LLC may retain patent rights. Patent Pending 2013 Fry Laboratories, LLC. Results are not representative of standard patient test results as it was performed as research. This assay was performed on an investigational and research basis and care should be taken when interpreting these results in combination with diagnostic tests.

Pan-Protozoal Metagenomics

Run by: DM on 1/6/2015 7:39 AM

Pan-Protozoal Metagenomics by Sequencing

SEE ATTACHED SEQUENCE REPORT

This test uses a kit/reagent designated by the manufacturer as for research use only, not for clinical use. Fry Laboratories, LLC developed this test or some of its components. The performance characteristics of this test are still undergoing validation and verification by Fry Laboratories, LLC. It has not been cleared or approved by the U.S. Food and Drug Administration. No international standard is currently available for the calibration of this assay. The results are not intended to be used as the sole means for clinical diagnosis or patient management decisions. Sequence results are considered proprietary and Fry Laboratories, LLC may retain patent rights. Patent Pending 2013 Fry Laboratories, LLC. Results are not representative of standard

Originally Reported On: 1/11/2016 7:39 AM

Printed: 1/11/2016 7:39 AM

Page 3 of 4

Accession: 22641 Patient ID: 43738

Lab Results For: Ryan Maidenberg

STAT[S] Corrected [C] Added [A]

**Fry Laboratories, LLC - Result Report**15720 N. Greenway-Hayden Loop Suite 3
Scottsdale, Az 85260**FRY LABORATORIES, L.L.C.**

FINAL COPY

CLIA#03D1026968 info@frylabs.com

866.927.8075(p) 480.656.4932(f) 480.292.8457(billing)

WWW.FRYLABS.COM

Patient:	Maidenberg, Ryan	Birth:	1/23/1990	Acc #:	22641
Patient #:	43738	Age:	25 years	Collection Date:	12/10/2015 3:00 PM
Doctor:	Winstrom, Margit	Gender:	Male	Received in Lab:	12/11/2015 10:44 AM DM

Test Name	Result	Units	Flag	Reference Range
Pan-Protozoal Metagenomics				Run by: DM on 1/6/2015 7:39 AM
patient test results as it was performed as research. This assay was performed on an investigational and research basis and care should be taken when interpreting these results in combination with diagnostic tests.				

Reviewed by: Dr. Stephen E. Fry, M.S., M.D., Laboratory Director

Originally Reported On: 1/11/2016 7:39 AM

Printed: 1/11/2016 7:39 AM

Page 4 of 4

STAT[S] Corrected [C] Added [A]

Accession: 22641 Patient ID: 43738

Lab Results For: Ryan Maidenberg

**Fry Laboratories, LLC - Result Report**

15720 N. Greenway-Hayden Loop Suite 3

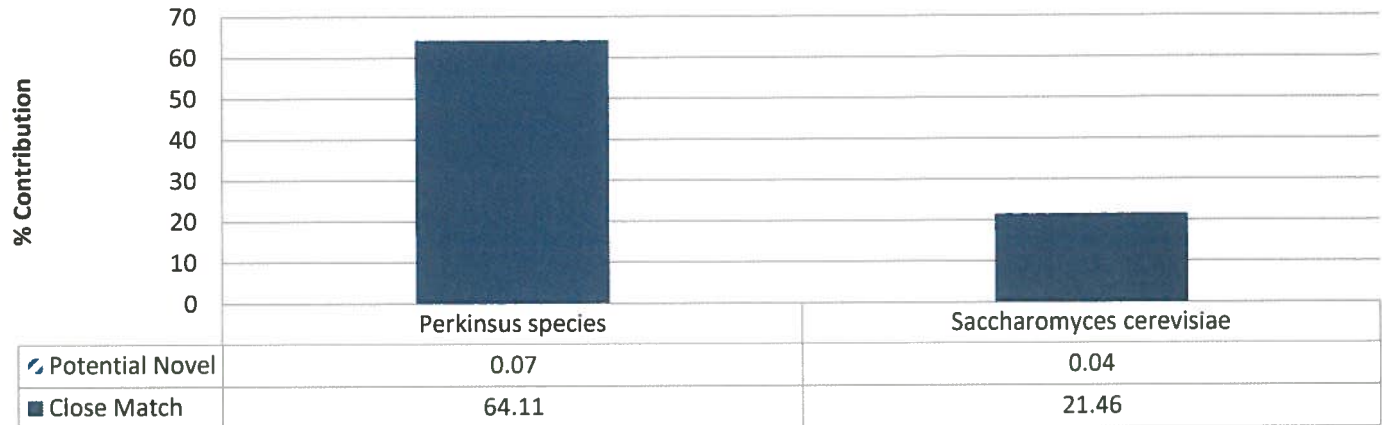
Scottsdale, Az 85260

CLIA#03D1026968 info@frylabs.com

866.927.8075(p) 480.656.4932(f) 480.292.8457(billing)

FRY LABORATORIES, L.L.C.**WWW.FRYLABS.COM**

Patient: Maidenberg, Ryan	Sample #: 22641-12770	Sample Type: Blood
Doctor: Winstrom, Margit	Birth: 1/23/1990	Collection Date: 12/10/2015
Gender: Male	Prepared By: DM/DSM	Completion Date: 1/06/2016

Pan-Protozoal Metagenomics**Complete Significant Contribution**

Species Name	Close Match	Potential Novel	Total Percent	Match Count	Novel Count	Total Count
Perkinsus species	64.11	0.07	64.18	2901	3	2904
Saccharomyces cerevisiae	21.46	0.04	21.5	971	2	973

Notes

Sequence Information: 47,231 sequence reads were obtained for the given sample. The longest 5,655 sequences were analyzed and compared to all available eukaryotic species. *: Multiple regions were sequenced for the organism counts indicated by an asterisk. Results Confidence Profile: At the provided quality control cut-off it is estimated that >95% of the sequence reads correctly list the genus, while >30% of the sequence reads correctly list the species.

This test uses a kit/reagent designated by the manufacturer as for research use only, not for clinical use. Fry Laboratories, LLC developed this test or some of its components. The performance characteristics of this test are still undergoing validation and verification by Fry Laboratories, LLC. It has not been cleared or approved by the U.S. Food and Drug Administration. No international standard is currently available for the calibration of this assay. The results are not intended to be used as the sole means for clinical diagnosis or patient management decisions. Phylogenetically the following genera likely should be considered same genus, but are not due to historical or medical terminology considerations and may therefore be cross genus identified: Escherichia and Shigella. Sequence results are considered proprietary and Fry Laboratories, LLC may retain patent rights. Patent Pending 2013 Fry Laboratories, LLC. Results are not representative of standard patient test results as it was performed as research. This assay was performed on an investigational and research basis and care should be taken when interpreting these results in combination with diagnostic tests. Reviewed by S. Fry, M.D.

**Fry Laboratories, LLC - Result Report**

15720 N. Greenway-Hayden Loop Suite 3
Scottsdale, Az 85260

CLIA#03D1026968 info@frylabs.com

866.927.8075(p) 480.656.4932(f) 480.292.8457(billing)

FRY LABORATORIES, L.L.C.

WWW.FRYLABS.COM

Patient: Maidenberg, Ryan	Sample #: 22641-12207	Sample Type: Blood
Doctor: Winstrom, Margit	Birth: 1/23/1990	Collection Date: 12/10/2015
Gender: Male	Prepared By: DM	Completion Date: 12/16/2015

Pan-Bacterial Metagenomics

- **NO SIGNIFICANT SEQUENCE RESULTS** – No significant results were obtained that met internal quality standards. A “NO SIGNIFICANT SEQUENCE RESULTS” result should be considered in conjunction with clinical presentation and additional diagnostic tests prior to establishing a diagnosis.

Notes

Sequence Information: 57,085 sequence reads were obtained for the given sample. The longest 14,483 sequences were analyzed and compared to all available prokaryotic species. Results Confidence Profile: At the provided quality control cut-off it is estimated that >95% of the sequence reads correctly list the genus, while >30% of the sequence reads correctly list the species.

This test uses a kit/reagent designated by the manufacturer as for research use only, not for clinical use. Fry Laboratories, LLC developed this test or some of its components. The performance characteristics of this test are still undergoing validation and verification by Fry Laboratories, LLC. It has not been cleared or approved by the U.S. Food and Drug Administration. No international standard is currently available for the calibration of this assay. The results are not intended to be used as the sole means for clinical diagnosis or patient management decisions. The following genera have been reported as difficult to identify using 16S sequencing: Aeromonas, Bacillus, Bordetella, Burkholderia, Campylobacter, Edwardsiella, Enterobacter, Neisseria, Pseudomonas, and Streptococcus. Sequence results are considered proprietary and Fry Laboratories, LLC may retain patent rights. Patent Pending 2013 Fry Laboratories, LLC. This assay was performed on an investigational and research basis and care should be taken when interpreting these results in combination with diagnostic tests. Reviewed by S. Fry, M.D.