VIOME



**RICHARD SPRAGUE'S RESULTS** 

## \'IOME

#### Dear Richard Sprague,

The information on this report is for educational and informational use only. The information is not intended to be used by the customer for any diagnostic purpose and is not a substitute for professional medical advice. You should always seek the advice of your physician or other healthcare providers with any questions you may have regarding diagnosis, cure, treatment, mitigation, or prevention of any disease or other medical condition or impairment or the status of your health.



#### Jim Fuller

**Technical Director** 

Test Name:Test Name:Test Name:Stool testBlood testSaliva test

Authorized Order Person: Authorized Order Person: Authorized Order Person:

Richard Sprague Richard Sprague Richard Sprague

Customer Name:Customer Name:Customer Name:Richard SpragueRichard SpragueRichard Sprague

DOB: DOB: DOB:

Gender:Gender:Gender:MaleMaleMale

 Customer Id:
 Customer Id:
 Customer Id:

 c22f1408
 c22f1408
 c22f1408

Sample Source: Sample Source: Sample Source:

Fecal Blood Saliva

Date Collected: Date Collected: Date Collected:

09/27/2022 09/27/2022 09/26/2022

Date Received: Date Received: Date Received:

09/28/2022 09/28/2022 09/28/2022

Date Issued: Date Issued: Date Issued:

10/08/2022 10/08/2022 10/08/2022

Sample ID: Sample ID: Sample ID:

1F4DF236A641 23D3261 3FA4CF1



Customer Name: Richard Sprague

DOB: XXXXXX

## Meet your probiotic microbes

These are microbes that are found in commercially available probiotic products that are also active in your sample. If there are no organisms listed, no probiotics were identified in your sample.

Enterococcus faecium



P Probiotic



Customer Name: Richard Sprague

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### **My Active Gut Microbes**

Actinomyces naeslundii **B** Bacterium Actinomyces sp. oral taxon 169 **B** Bacterium Actinomyces sp. oral taxon 897 **B** Bacterium Adlercreutzia sp. 8CFCBH1 **B** Bacterium Akkermansia muciniphila **B** Bacterium Alistipes communis **B** Bacterium Alistipes dispar **B** Bacterium Alistipes indistinctus **B** Bacterium Alistipes megaguti **B** Bacterium Alistipes sp. dk3624 **B** Bacterium Amedibacterium intestinale **B** Bacterium Anaerobutyricum hallii **B** Bacterium



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Anaerostipes hadrus **B** Bacterium Arachnia propionica F0230a **B** Bacterium Aspergillus flavus **E** Eukaryote Bacteroides caccae **B** Bacterium Bacteroides cellulosilyticus **B** Bacterium Bacteroides dorei CL03T12C01 **B** Bacterium Bacteroides fragilis 638R **B** Bacterium Bacteroides intestinalis **B** Bacterium Bacteroides ovatus **B** Bacterium Bacteroides sp. A1C1 **B** Bacterium Bacteroides sp. CACC 737 **B** Bacterium Bacteroides sp. CBA7301 **B** Bacterium Bacteroides sp. HF-162 **B** Bacterium



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Bacteroides sp. HF-5141 **B** Bacterium Bacteroides sp. HF-5287 **B** Bacterium Bacteroides sp. PHL 2737 **B** Bacterium Bacteroides thetaiotaomicron VPI-5482 **B** Bacterium Bacteroides uniformis **B** Bacterium Bacteroides vulgatus ATCC 8482 **B** Bacterium Bacteroides xylanisolvens **B** Bacterium Bifidobacterium breve B Bacterium P Probiotic Blautia producta ATCC 27340 = DSM 2950 **B** Bacterium Blautia sp. SC05B48 **B** Bacterium Blueberry shock virus V Virus Bordetella trematum **B** Bacterium Butyricimonas faecalis **B** Bacterium



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Butyricimonas virosa **B** Bacterium Candidatus Methanomassiliicoccus intestinalis Issoire-Mx1 **A** Archaeon Clostridioides difficile **B** Bacterium Clostridium perfringens **B** Bacterium Coprobacter sp. 2CBH44 **B** Bacterium Coprococcus comes **B** Bacterium Desulfovibrio fairfieldensis **B** Bacterium Dialister hominis **B** Bacterium Dialister massiliensis **B** Bacterium Dysosmobacter welbionis **B** Bacterium Enterocloster bolteae **B** Bacterium Enterococcus faecalis ARO1/DG **B** Bacterium Enterococcus faecalis ATCC 29212 **B** Bacterium



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Enterococcus faecalis D32 **B** Bacterium Enterococcus faecalis str. Symbioflor 1 **B** Bacterium Enterococcus gilvus **B** Bacterium Enterococcus saigonensis **B** Bacterium Eptesicus fuscus gammaherpesvirus V Virus Eubacterium callanderi **B** Bacterium Eubacterium limosum **B** Bacterium Eubacterium sp. NSJ-61 **B** Bacterium Faecalibacillus intestinalis **B** Bacterium Faecalibacterium prausnitzii A2-165 **B** Bacterium Flavonifractor plautii **B** Bacterium Flintibacter sp. KGMB00164 **B** Bacterium Gemella sanguinis **B** Bacterium



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Intestinimonas butyriciproducens **B** Bacterium Lachnoclostridium phocaeense **B** Bacterium Lactobacillus paragasseri **B** Bacterium Lactococcus raffinolactis **B** Bacterium Longibaculum sp. KGMB06250 **B** Bacterium Massilistercora timonensis **B** Bacterium Methanobrevibacter smithii ATCC 35061 A Archaeon Mogibacterium diversum **B** Bacterium Odoribacter splanchnicus DSM 20712 **B** Bacterium Oscillibacter sp. PEA192 **B** Bacterium Oxalobacter formigenes OXCC13 **B** Bacterium Parabacteroides distasonis ATCC 8503 **B** Bacterium Parabacteroides sp. CT06



**B** Bacterium

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Pepper mild mottle virus V Virus Persea americana chrysovirus V Virus Phascolarctobacterium faecium **B** Bacterium Phocaeicola coprophilus **B** Bacterium Pyrenophora tritici-repentis **E** Eukaryote Ralstonia insidiosa **B** Bacterium Roseburia hominis A2-183 **B** Bacterium Ruminococcus bicirculans **B** Bacterium Ruminococcus sp. JE7A12 **B** Bacterium Ruthenibacterium lactatiformans **B** Bacterium Saccharomyces pastorianus **E** Eukaryote Streptococcus anginosus **B** Bacterium Streptococcus australis **B** Bacterium



Customer Name: Richard Sprague

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Streptococcus intermedius **B** Bacterium Streptococcus oralis **B** Bacterium Streptococcus salivarius JIM8777 **B** Bacterium Streptococcus sanguinis SK36 **B** Bacterium Streptococcus sp. A12 **B** Bacterium Streptococcus sp. LPB0220 **B** Bacterium Streptococcus thermophilus MN-ZLW-002 **B** Bacterium Streptococcus vestibularis **B** Bacterium Tobacco mild green mosaic virus V Virus Turicibacter sanguinis **B** Bacterium Turicibacter sp. H121 **B** Bacterium Valsa mali **E** Eukaryote [Clostridium] innocuum **B** Bacterium



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[Clostridium] scindens ATCC 35704



**B** Bacterium



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# **My Active Oral Microbes**

Abiotrophia defectiva  B Bacterium
Acholeplasma brassicae  B Bacterium
Acinetobacter johnsonii  B Bacterium
Actinomyces naeslundii  B Bacterium
Actinomyces pacaensis  B Bacterium
Actinomyces sp. HMT 175  B Bacterium
Actinomyces sp. oral taxon 169  B Bacterium
Actinomyces sp. oral taxon 414  B Bacterium
Actinomyces viscosus  B Bacterium
Angomonas deanei  E Eukaryote
Arachnia propionica F0230a  B Bacterium
Aspergillus flavus  E Eukaryote



Customer Name: Richard Sprague

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Bacteroides heparinolyticus **B** Bacterium Candidatus Nanosynbacter lyticus **B** Bacterium Capnocytophaga endodontalis **B** Bacterium Capnocytophaga gingivalis **B** Bacterium Capnocytophaga haemolytica **B** Bacterium Capnocytophaga leadbetteri **B** Bacterium Capnocytophaga sp. FDAARGOS\_737 **B** Bacterium Capnocytophaga sp. oral taxon 323 **B** Bacterium Capnocytophaga sp. oral taxon 864 **B** Bacterium Capnocytophaga sp. oral taxon 878 **B** Bacterium Capnocytophaga sp. oral taxon 902 **B** Bacterium Capnocytophaga sputigena **B** Bacterium Cardiobacterium hominis **B** Bacterium



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Corynebacterium matruchotii **B** Bacterium Cutibacterium acnes C1 **B** Bacterium Cutibacterium acnes TypeIA2 P.acn33 **B** Bacterium Dialister pneumosintes **B** Bacterium Dolosigranulum pigrum **B** Bacterium Eikenella corrodens **B** Bacterium Enterococcus faecalis ATCC 29212 **B** Bacterium Enterococcus faecalis OG1RF **B** Bacterium Enterococcus faecalis str. Symbioflor 1 **B** Bacterium Enterococcus faecium B Bacterium P Probiotic Erysipelothrix rhusiopathiae **B** Bacterium Exophiala phaeomuriformis **E** Eukaryote Faecalibacterium prausnitzii **B** Bacterium



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Fusobacterium canifelinum **B** Bacterium Fusobacterium hwasookii ChDC F174 **B** Bacterium Fusobacterium hwasookii ChDC F206 **B** Bacterium Fusobacterium hwasookii ChDC F300 **B** Bacterium Fusobacterium periodonticum **B** Bacterium Fusobacterium pseudoperiodonticum **B** Bacterium Gemella haemolysans **B** Bacterium Gemella morbillorum **B** Bacterium Gemella sanguinis **B** Bacterium Haemophilus haemolyticus **B** Bacterium Haemophilus parahaemolyticus **B** Bacterium Haemophilus parainfluenzae T3T1 **B** Bacterium Haemophilus pittmaniae **B** Bacterium



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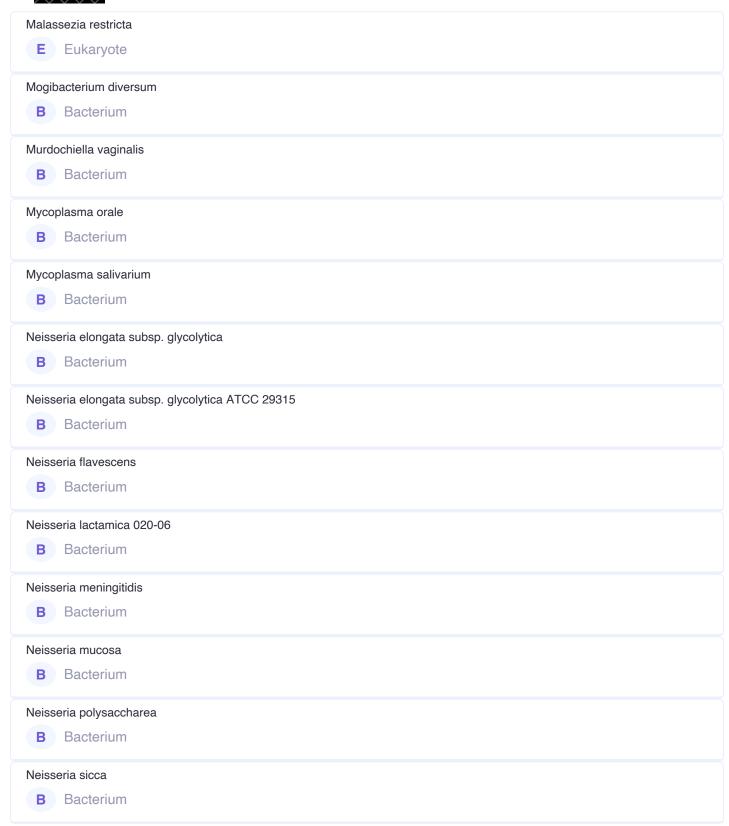
DOB:

Haemophilus sp. oral taxon 036 **B** Bacterium Kingella denitrificans **B** Bacterium Kingella oralis **B** Bacterium Kluyveromyces marxianus **E** Eukaryote Kurthia sp. 11kri321 **B** Bacterium Lachnoanaerobaculum umeaense **B** Bacterium Lautropia mirabilis **B** Bacterium Leptotrichia shahii **B** Bacterium Leptotrichia sp. oral taxon 212 **B** Bacterium Leptotrichia sp. oral taxon 498 **B** Bacterium Leptotrichia sp. oral taxon 847 **B** Bacterium Leptotrichia trevisanii **B** Bacterium Leptotrichia wadei **B** Bacterium



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DOB:





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Neisseria subflava **B** Bacterium Odoribacter splanchnicus DSM 20712 **B** Bacterium Olsenella sp. oral taxon 807 **B** Bacterium Parvimonas micra **B** Bacterium Pepper mild mottle virus V Virus Porphyromonas gingivalis **B** Bacterium Prevotella denticola **B** Bacterium Prevotella enoeca **B** Bacterium Prevotella jejuni **B** Bacterium Prevotella melaninogenica ATCC 25845 **B** Bacterium Prevotella oris **B** Bacterium Pseudoleptotrichia goodfellowii **B** Bacterium Pseudomonas sp. phDV1 **B** Bacterium



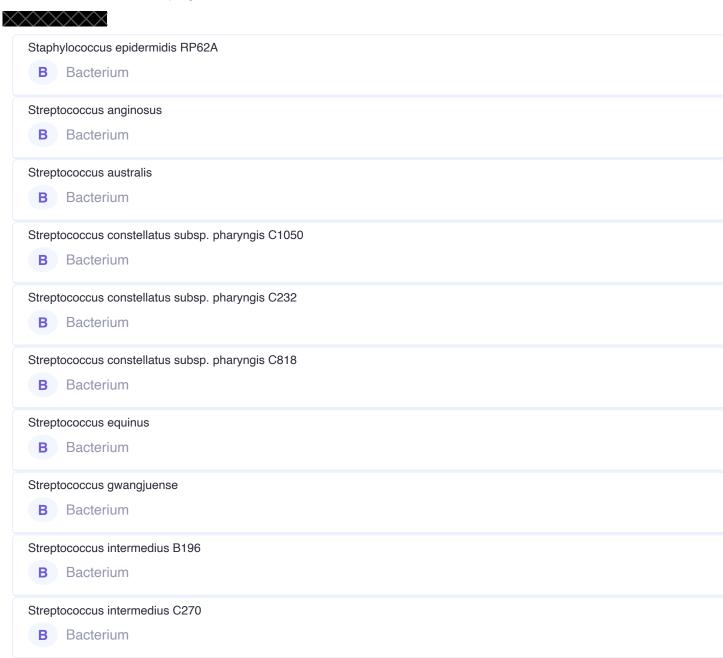
Customer Name: Richard Sprague

DOE

Pyrenophora tritici-repentis **E** Eukaryote Ralstonia insidiosa **B** Bacterium Ralstonia mannitolilytica **B** Bacterium Rhodococcus qingshengii **B** Bacterium Rothia aeria **B** Bacterium Rothia dentocariosa ATCC 17931 **B** Bacterium Rothia mucilaginosa DY-18 **B** Bacterium Schaalia meyeri **B** Bacterium Schaalia odontolytica **B** Bacterium Selenomonas sp. oral taxon 136 **B** Bacterium Selenomonas sp. oral taxon 478 **B** Bacterium Selenomonas sp. oral taxon 920 **B** Bacterium Staphylococcus epidermidis PM221 **B** Bacterium



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Streptococcus intermedius JTH08

**B** Bacterium

Streptococcus koreensis

**B** Bacterium

Streptococcus milleri

**B** Bacterium



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Streptococcus mitis B6 **B** Bacterium Streptococcus mitis NCTC 12261 **B** Bacterium Streptococcus mutans **B** Bacterium Streptococcus oralis ATCC 35037 **B** Bacterium Streptococcus oralis Uo5 **B** Bacterium Streptococcus oralis subsp. dentisani **B** Bacterium Streptococcus oralis subsp. tigurinus **B** Bacterium Streptococcus salivarius CCHSS3 **B** Bacterium Streptococcus salivarius JIM8777 **B** Bacterium Streptococcus sanguinis SK36 **B** Bacterium Streptococcus sp. 116-D4 **B** Bacterium Streptococcus sp. 1643 **B** Bacterium Streptococcus sp. A12 **B** Bacterium



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Streptococcus sp. FDAARGOS\_192 **B** Bacterium

Streptococcus sp. I-G2

**B** Bacterium

Streptococcus sp. I-P16

**B** Bacterium

Streptococcus sp. LPB0220

**B** Bacterium

Streptococcus sp. NPS 308

**B** Bacterium

Streptococcus sp. oral taxon 061

**B** Bacterium

Streptococcus sp. oral taxon 431

**B** Bacterium

Streptococcus suis

**B** Bacterium

Streptococcus thermophilus

**B** Bacterium

Streptococcus vestibularis

**B** Bacterium

Streptococcus viridans

**B** Bacterium

Tannerella sp. oral taxon HOT-286

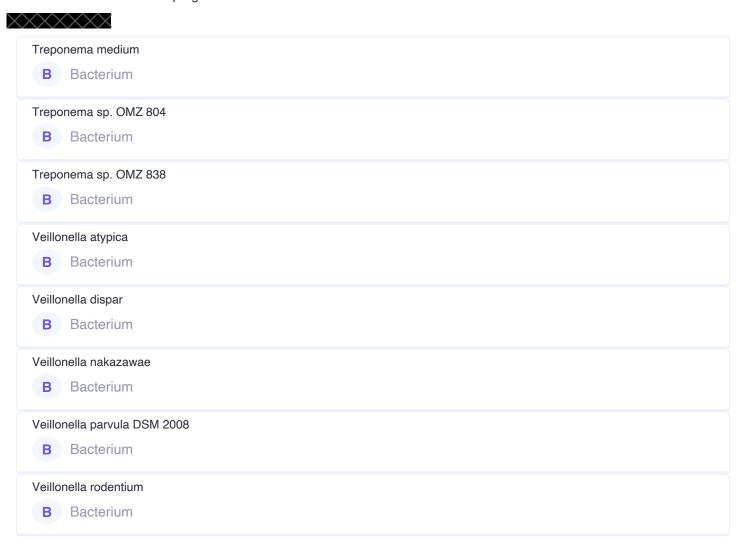
**B** Bacterium

Tobacco mild green mosaic virus

V Virus



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https://www.viome.com/reportablerange



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#### **Viome Methodology**

Microbial total RNA is extracted, ribosomal RNA molecules are removed from total RNA, and the remaining RNA molecules are sequenced on Illumina NextSeq or NovaSeq. Proprietary bioinformatics algorithms are used to perform taxonomic classification and functional analysis of the sequencing data.

Whole blood total RNA is extracted, polyadenylated transcripts are captured from total RNA and sequenced on Illumina NextSeq or NovaSeq. Proprietary bioinformatics algorithms are used to perform quantitative gene expression analysis of the sequencing data. Results are reported to Viome customers in the context of integrative functional health themes communicated as scores derived largely from proprietary pathway content and analytics methodology. Each score is built to account for molecular pathway topology and strength of literature evidence manually curated by translational science experts in systems biology. Scoring results are CLIA-validated and are end-to-end automated in the production system, which uses each customer's gene expression data as input.

#### **Method Limitation**

Viome's results and recommendations are based on our ability to identify and quantify thousands of microbial taxa. Such vast diversity has not been captured in the genomic databases, so it is impossible to assess it comprehensively. There are microorganisms that thrive in the gut whose genomes have not been sequenced. Viome is unable to identify those specific organisms, but can identify their near neighbors, which have similar homology. There are also taxa that we cannot discriminate because of their sequence similarity, for example at the strain level. There are some RNA transcripts that may not always align and match to specific known organisms, which may be due to the fact that these sequences are poorly characterized, reliable consensus sequence may not be available for reference. Viome monitors the growth of public genomic databases and will update its own databases when there is sufficient new information to be worthy of incorporation.

Detection of a microorganism by this test does not imply having a disease. Similarly, not detecting a microorganism by this test does not exclude the presence of a disease-causing microorganism. Further, other organisms may be present that are not detected by this test. This test is not a substitute for established methods for identifying microorganisms or their antimicrobial susceptibility profile. Results are qualitative and identify the presence or absence of identified annotated organisms.

Viome's results and recommendations are based on our ability to identify and quantify thousands of human transcripts. While the test has been clinically validated and shows very high precision, it also has some limitations. As the presence of transcripts nears the limits of detection, the ability of the test to accurately detect them is diminished. This is simply due to the uneven distribution of molecules in liquid volumes, causing small random changes in the transcript concentrations. Scores rely on detection of expressed genes, as well as their levels of expression against the reference population cohort. Hence, certain sample results may be affected by any skewing or sampling biases of the reference cohort, as opposed to solely the biology of the given customer. Scores also are limited by our current understanding of actionable or biologically



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meaningful insights and literature coverage to date. As Viome's reference population expands and current knowledge grows, these limitations become more negligible.

The Gut Intelligence Test was developed by, and its performance characteristics determined by Viome Inc. It has not been cleared or approved by the US Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary. This laboratory is registered under CLIA (50D2224932) to perform high complexity testing. Sequencing was performed at Viome Inc. CLIA (50D2224932). Contact Viome for any further questions.

The Human Gene Expression test was developed by, and its performance characteristics determined by Viome Inc. It has not been cleared or approved by the US Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary. This laboratory is registered under CLIA 50D2224932 to perform high complexity testing. Sequencing was performed at Viome, Inc. CLIA 50D2224932. Contact Viome for any further questions.



# Y I O M E

RICHARD SPRAGUE'S RESULTS

VERSION: 1.14.2

These results are signed off by...

Jim Fuller

Technical Director