US BioTek LABORATORIES · **PATIENT REPORT**
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Clinical Laboratory Improvement Amendments

25282-0079

*** US BioTek** US BioTek. 16020 Linden Av N, Shoreline WA 98133

Lab ID
Patient ID PAT-100009
Ext ID 25282-0079

Test Patient
Sex: Female • 45yrs • 01-Jan-80

RECEIVED
09-Oct-25

VAGINAL MICROBIOME MAPPING
Specimen type - Swab-Vaginal

Collected
05-Oct-25

TEST	RESULT	H/L	REFERENCE	UNITS
pH	5.9	H	(3.5-4.5)	
Bacterial Vaginosis	POSITIVE			

OPPORTUNISTIC BACTERIA

TEST	RESULT	H/L	REFERENCE	UNITS
Enterococcus faecalis	<DL		(<1.00)	x10^5 CFU/ml
Escherichia coli	<DL		(<1.00)	x10^5 CFU/ml
Klebsiella pneumoniae complex	<DL		(<1.00)	x10^5 CFU/ml
Proteus mirabilis	<DL		(<1.00)	x10^5 CFU/ml
Pseudomonas aeruginosa	<DL		(<1.00)	x10^5 CFU/ml
Staphylococcus aureus	<DL		(<1.00)	x10^5 CFU/ml
Streptococcus agalactiae	4.40	H	(<1.00)	x10^5 CFU/ml
Streptococcus pyogenes	<DL		(<1.00)	x10^5 CFU/ml
Streptococcus pneumoniae	<DL		(<1.00)	x10^5 CFU/ml
Streptococcus dysgalactiae	<DL		(<1.00)	x10^5 CFU/ml
Staphylococcus epidermidis	<DL		(<1.00)	x10^5 CFU/ml
Peptostreptococcus species	<DL		(<1.00)	x10^5 CFU/ml
Prevotella species	<DL		(<1.00)	x10^5 CFU/ml
Haemophilus influenzae	<DL		(<1.00)	x10^5 CFU/ml
Leptothrix species	<DL		(<1.00)	x10^5 CFU/ml
Klebsiella granulomatis	<DL		(<1.00)	x10^5 CFU/ml
Gardnerella vaginalis	7.30	H	(<1.00)	x10^5 CFU/ml
Atopium vaginae	<DL		(<1.00)	x10^5 CFU/ml
Megasphaera species	<DL		(<1.00)	x10^5 CFU/ml

Firmicutes Phylum · Proteobacteria Phylum · Bacteroidota Phylum · Actinobacteriota Phylum · Tenericutes Phylum · Ascomycota Phylum

Sample Report

Disclaimer: The results of vaginal microbiome analyses are intended for informational and clinical interpretation purposes only. Microbiome testing reflects the composition of microbial communities at the time of sampling and may be influenced by sample collection, handling, storage, and test limitations.

This test is not a standalone diagnostic tool for infection or disease. Clinicians should interpret results in the context of patient symptoms, clinical examination, and complementary laboratory findings.

The laboratory's full scope of accreditation can be accessed via the relevant governing accrediting body's publicly available documentation.

Lab Director: Jillian Harrington, PhD, HCLD (ABB). CLIA#99D2282774

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SEXUALLY TRANSMITTED INFECTIONS (STIs)

TEST	RESULT
Chlamydia trachomatis	DETECTED
Haemophilus ducreyi	Not Detected
Lymphogranuloma venereum	Not Detected
Neisseria gonorrhoeae	Not Detected
Treponema pallidum (Syphilis)	Not Detected
Trichomonas vaginalis	Not Detected
Mycoplasma genitalium	Not Detected
Mycoplasma hominis	Not Detected
Ureaplasma parvum	Not Detected
Ureaplasma urealyticum	Not Detected

SEXUALLY TRANSMITTED INFECTIONS - VIRUSES

TEST	RESULT
Herpes Simplex Virus 1	DETECTED
Herpes Simplex Virus 2	Not Detected
Cytomegalovirus (CMV)	Not Detected
Varicella-Zoster Virus	Not Detected

MYCOLOGY

TEST	RESULT	H/L	REFERENCE	UNITS
Candida albicans	4.10	H	(<1.00)	x10^5 CFU/ml
Candida glabrata	<DL		(<1.00)	x10^5 CFU/ml
Candida krusei	<DL		(<1.00)	x10^5 CFU/ml
Candida parapsilosis	<DL		(<1.00)	x10^5 CFU/ml
Candida tropicalis	<DL		(<1.00)	x10^5 CFU/ml

BENEFICIAL BACTERIA

TEST	RESULT	H/L	REFERENCE	UNITS
TOTAL LACTOBACILLI	3.40		(>1.00)	x10^6 CFU/ml
Lactobacillus crispatus	3.10		(>1.00)	x10^6 CFU/ml
Lactobacillus gasseri	<DL	L	(>1.00)	x10^6 CFU/ml
Lactobacillus iners	<DL	L	(>1.00)	x10^6 CFU/ml
Lactobacillus jensenii	<DL	L	(>1.00)	x10^6 CFU/ml
Lactobacillus rhamnosus	0.10	L	(>1.00)	x10^6 CFU/ml
Lactobacillus salivarius	0.20	L	(>1.00)	x10^6 CFU/ml
Lactobacillus vaginalis	<DL	L	(>1.00)	x10^6 CFU/ml

Firmicutes Phylum · Proteobacteria Phylum · Bacteroidota Phylum · Actinobacteriota Phylum · Tenericutes Phylum · Ascomycota Phylum

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VAGINAL MICROBIOME COMMENTS

VAGINAL pH ELEVATED:

Vaginal pH can be elevated by the presence of pathogenic infection, blood, semen, vaginal medications, using certain soaps and douches. In the absence of the latter, an elevated pH may be the result of decreased serum oestradiol and is suggestive of menopause or hormone imbalance and may require further pathology investigation. The typical vaginal pH is 3.5-4.5. Prepubertal and postmenopausal pH levels are normally >5 pH. With the increase of the oestrogen levels around puberty, the genital mucosa thickens and becomes colonized with Lactobacillus species which produce lactic acid and hydrogen peroxide to lower the pH below 4.5.

References: Caillouette et. al., 1997, American Journal of Obstetrics and Gynaecology, 176(6)1270-1277. Panda et. al., 2014, Journal of Mid-Life Health, 5(1):34-37. Kaambo et. al., 2018, Front Public Health, 6:78.

STREPTOCOCCUS AGALACTIAE ELEVATED:

Streptococcus agalactiae (Group B Streptococcus) is a member of the commensal microbiota of the human intestinal and genitourinary tracts and is also an important pathogen in AV and other human infections. AV is defined by disruption in Lactobacillus dominance (Total Lactobacillus <10^6 CFU/ml), increased pH (>4.5) and the presence of mainly aerobic enteric commensals or pathogens, including Streptococcus agalactiae (>10^5 CFU/ml).

GARDNERELLA VAGINALIS ELEVATED:

Gardnerella is a part of normal vaginal anaerobic flora but overgrowth can cause Bacterial vaginosis. This is a poly-microbial infection which suppresses dominance of normal vaginal lactobacillus spp. (Total lactobacillus <10^6 CFU/ml), presence of clue cells, alkaline vaginal pH (>4.5) and fishy vaginal discharge. BV may be asymptomatic or cause symptoms such as itching and malodorous discharge (often thin and white/grey). It is associated with an increased risk of preterm delivery, pelvic inflammatory disease and an increased risk of acquisition of sexually transmitted infections.

Treatment:

Can be treated after ruling out allergy/pregnancy status: Metronidazole 400 mg orally, 12-hourly for 7 days or Metronidazole 0.75% vaginal gel 1 applicatorful intravaginally at bedtime for 5 nights OR Clindamycin 2% vaginal cream 1 applicatorful intravaginally, at bedtime for 7 nights (If pregnant or allergic to metronidazole)

General advice for along with above treatment as follows:

- Regular salt or warm water only washes (no douching)
- Good Personal Hygiene
- Avoid irritants (soaps/perfumes)
- Use barrier protection during sex

CHLAMYDIA TRACHOMATIS – DETECTED:

Chlamydia infection may be asymptomatic or cause pelvic inflammatory disease. If left untreated, complications may also include infertility, chronic pelvic pain or ectopic pregnancy. Even asymptomatic infections should be treated and must always include the patients partner/sexual contacts.

This organism may be classified as a notifiable pathogen. Confirmation has been performed through repeat testing and/or verification on a secondary platform, where required. The result will be reported to the relevant Department of Health in accordance with statutory requirements. For specific state-based notification obligations, please refer to your local public health authority.

NEISSERIA GONORRHOEAE – Not Detected:

This does not completely exclude the possibility of infection as is dependent on an adequate specimen collection. If you have symptoms, please consult with your healthcare practitioner.

HERPES SIMPLEX VIRUS 1 – DETECTED:

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HSV may be either symptomatic or asymptomatic. Whilst HSV-1 often affects the perioral region, herpes simplex virus type 1 or type 2 can cause genital herpes lesions. These present as painful blisters on or around the genital area that erode to leave ulcers, with the initial episode usually the most severe. Other symptoms can include genital itchiness or irritation. Herpes genitalis remains one of the most common sexually transmitted infections (STI) and the primary mode of transmission of both HSV-1 and HSV-2 is via direct contact of open lesions. Management of genital herpes centres around preventing its transmission and suppressing viral shedding through antiviral therapy and counselling regarding the risk of sexual transmission. Current therapies include specific antivirals that may shorten the episode if commenced within 72 hours of symptom presentation, but are not curative.

HERPES SIMPLEX VIRUS Type 2 – Not Detected:

This does not completely exclude the possibility of infection as is dependent on an adequate specimen collection. If you have symptoms, please consult with your healthcare practitioner.

LACTOBACILLUS: Lactobacillus is the predominant genus in a healthy vaginal microbiota, and functions to inhibit the adhesion and proliferation of opportunistic and primary pathogens. The presence of different Lactobacillus species is a major factor in the stability of the vaginal microbiome. Women with L. iners-dominant microbiomes are more likely to harbor Candida than women with L. crispatus-dominant microbiomes (due to higher production of lactic acid by L. crispatus compared to L. iners), leading to better anti-Candida activity (impeding Candida colonization) than L. iners through a greater production of lactic acid. Furthermore, L. iners dominance has been associated with other negative health outcomes such as increased risks of Chlamydia trachomatis infection, incident Bacterial Vaginosis and defects in vaginal mucus that compromise antiviral barrier function.

Methodology

pH Electrode, Quantitative PCR (qPCR), Polymerase Chain Reaction (PCR)

Sample Report