[redacted] Laboratory, Inc.

Hormone Report; saliva

[redacted] Ph.D., Director [redacted] KS 66214 (913) [redacted] Fax (913) [redacted]

Order: 180821-0060
Client #: 24510
[redacted] Laboratory
[redacted] Street
[redacted] KS 66214 USA

Patient: Kaveri Alaghappan
Id: P181000105 **Client Ref:** 605257
Age: 33 **DOB:** 12/27/1984
Sex: Female
Body Mass Index (BMI): 18.6

Menopausal Status: Pre-menopausal, LMP: 07/21/2018

Sample Collection	Date/Time
Date Collected	08/12/2018
Morning	08/12/2018 0745
Noon	08/12/2018 1345
Evening	08/12/2018 1800
Night	08/12/2018 2200
Date Received	08/21/2018
Date Reported	08/23/2018

Analyte	Result	Unit	L	WR	H	Reference Interval	Supplementation Range**
Estrone (E1)*	16.9	pg/mL		◆		< 45	
Estradiol (E2)	0.70	pg/mL		◆		0.5 - 5.0	1.5 - 7.2
Estriol (E3)*	<5.0	pg/mL		◆		< 66	67 - 708
EQ (E3 / (E1 + E2)) Ratio	0.28		↓			> 1.0	
Progesterone (Pg)	96	pg/mL	↓			127 - 446	500 - 3000
Pg/E2 Ratio	137		↓			200 - 600	
Testosterone	7	pg/mL		◆		6.0 - 49	30 - 60
DHEA*	44	pg/mL	↓			106 - 300	

Hormone Comments:

- Estrone, estradiol and estriol are within the reference ranges, however the Estrogen Quotient (EQ) is low. Estriol is less potent than the other estrogens and when present in sufficient quantities (as indicated by an optimal EQ) it plays an antagonistic role, and may govern the proliferative effects of estrone and estradiol. Estriol supplementation is a consideration to balance this quotient and reduce associated risks. .
- Progesterone to estradiol (Pg/E2) ratio and reported symptoms are consistent with progesterone insufficiency (estrogen dominance). Supplementation with topical progesterone to correct this relative deficiency is a consideration. Note: The progesterone level is suggestive of an anovulatory cycle, luteal phase failure or collection outside of luteal phase. .
- DHEA levels typically decline with age and the level measured here is below the reference range. The low DHEA level may warrant supplementation for optimal well-being. Note: Supplementation with DHEA may increase testosterone and/or estradiol levels.

Notes:
Estriol result confirmed via repeat analysis
RI= Reference Interval, L (blue)= Low (below RI), WRI (green)= Within RI (optimal), WRI (yellow)= Within RI (not optimal), H (red)= High (above RI)
The current samples are routinely held three weeks from receipt for additional testing.
The Pg/E2 ratio is an optimal range established based on clinical observation. Progesterone supplementation is generally required to achieve this level in men and postmenopausal women.

[redacted]

Test requisition #605257 Physician: DENISE BUTLER

[redacted] Laboratory, Inc.

Adrenal Hormone Report; saliva

[redacted], Ph.D., Director [redacted] KS 66214 (913) [redacted] Fax (913) [redacted]

Order: 180821-0060

Client #: 24510

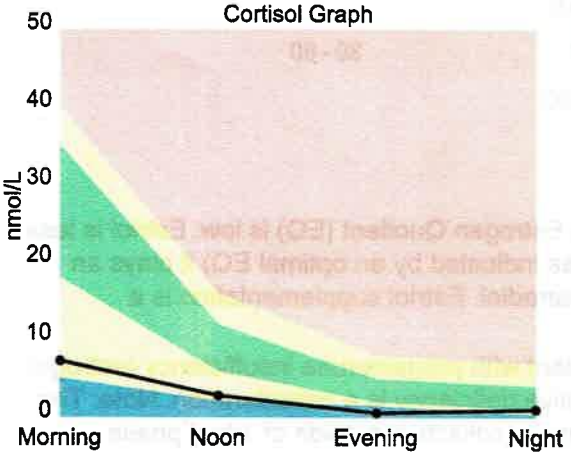
[redacted] Laboratory
[redacted] Street
[redacted]6214 USA

Patient: Kaveri Alaghappan
Id: P181000105 **Client Ref:** 605257
Age: 33 **DOB:** 12/27/1984
Sex: Female
Body Mass Index (BMI): 18.6

Menopausal Status: Pre-menopausal, LMP: 07/21/2018

Sample Collection	Date/Time
Date Collected	08/12/2018
Morning	08/12/2018 0745
Noon	08/12/2018 1345
Evening	08/12/2018 1800
Night	08/12/2018 2200
Date Received	08/21/2018
Date Reported	08/23/2018

Analyte	Result	Unit	L	WR	H	Optimal Range	Reference Interval
Cortisol Morning	7.3	nmol/L				18 - 35	5.1 - 40
Cortisol Noon	2.8	nmol/L				6.0 - 12	2.1 - 16
Cortisol Evening	0.58	nmol/L	↓			2.0 - 5.0	1.5 - 8.0
Cortisol Night	0.99	nmol/L				1.0 - 4.0	0.33 - 7.0
DHEA*	44	pg/mL	↓				106 - 300



Adrenal Phase: 2

Hormone Comments:

- Diurnal cortisol pattern and reported symptoms are consistent with evolving (Phase 2) HPA axis (adrenal gland) dysfunction.
- DHEA levels typically decline with age and the level measured here is below the reference range. The low DHEA level may warrant supplementation for optimal well-being. Note: Supplementation with DHEA may increase testosterone and/or estradiol levels.

Notes:
RI= Reference Interval, L (blue)= Low (below RI), WRI (green)= Within RI (optimal), WRI (yellow)= Within RI (not optimal), H (red)= High (above RI)
The current samples are routinely held three weeks from receipt for additional testing.

[redacted]

[redacted]

[redacted] WA 98032

Accession: 19-21123
Phone: 215-[redacted]
Fax: 1-215-[redacted]

Received: **5/10/2019**
Completed: **5/15/2019**
Reported: **5/15/2019**

[redacted]
QUAKERTOWN, PA 18951

Results For: ALAGHAPPAN, KAVERI
Age: **34** DOB: **12/27/1984** Sex: **F**
Patient's Tel: **1-484-302-0262**
Ref. ID:
Specimen Collected: **5/4/2019**

ePeriM **Expanded Perimenopause Hormone Panel - Saliva**

Free Fraction - Hormone	Results		Range
	1st Sample	2nd Sample	
DHEA - Dehydroepiandrosterone [DHEA + DHEA-S] (saliva)	1 Low	1 Low	*Adults: 3-10 ng/ml*
TTF - Testosterone (saliva)	49 High	36 Normal	*Adults* *Borderline: 6-9 pg/ml* *Normal: 10-38 pg/ml*
E1 - Estrone (saliva)	151 High	16 Low	*Normal for Age 16-39: 30-58 pg/ml*
E2 - Estradiol (saliva)	12	4	*Postmenopause-No HRT: 1-4 pg/ml* *BHRT Target Range: 2-10 pg/ml* *Follicular: 2-10 pg/ml* *Luteal: 3-16 pg/ml*
E3 - Estriol (saliva)	50 High	14	*Postmenopause-No HRT: 7-18 pg/ml* *BHRT Target Range: 14-38 pg/ml* *Cycling Female: 12-25 pg/ml*
P1 - Progesterone (saliva)	33	69	*Postmenopause-No HRT: 5-95 pg/ml* *BHRT Target Range: 100-300 pg/ml* *Follicular: 20-100 pg/ml* *Luteal: 65-500 pg/ml*
FSH - Follicle stimulating hormone (saliva)	41	67	*Cycling Female: <125 uIU/mL* *Postmenopause: 90-500 uIU/mL*
LH - Luteinizing hormone (saliva)	42	28	*Cycling Female: 8-30 uIU/mL* *HRT: 8-30 uIU/mL* *Postmenopause-No HRT: 25-200 uIU/mL*

Note: The BHRT target range is based on optimal physiological hormone levels in cycling females. Current or previous topical hormone use or inadvertent exposure may lead to increased salivary hormone levels that exceed physiological or BHRT target ranges.

Diagnosis Code(s): Not Provided To The Lab

Results and comments above are intended for informational purposes and should not be construed as medical advice. Use this report in context of the clinical picture and patient history before initiating any treatment.

[redacted]

COURTESY INTERPRETATION of test and technical support are available upon request, to Physicians Only.

SCANNED

[redacted]

Patient: ALAGHAPPAN, KAVERI
DOB: 12/27/1984 **Patient ID:**

Control ID: 10462458881

Specimen ID: 046-504-0551-0
Date collected: 02/15/2019 0943 Local

TESTS	RESULT	FLAG	UNITS	REFERENCE INTERVAL	LAB
1 day - 30 days			Not estab.	Not estab.	
1 month - 5 months			1 - 30	0 - 16	
6 months			2 - 52	1 - 24	
7 months - 11 months			2 - 82	2 - 82	
1 year			3 - 200	2 - 100	
2 years - 3 years			6 - 366	4 - 227	
4 years - 6 years			14 - 710	6 - 455	
7 years - 9 years			19 - 893	12 - 708	
10 years			22 - 1055	12 - 708	
11 years			22 - 1055	12 - 796	
12 years			16 - 810	12 - 796	
13 years			19 - 893	9 - 681	
14 years - 15 years			20 - 798	6 - 681	
16 years			18 - 628	9 - 472	
17 years - 100 years			6 - 495	6 - 495	
Pregnenolone, MS	36		ng/dL		03
Reference Range: Adults: <151					
Hemoglobin A1c					
Hemoglobin A1c	5.3		%	4.8 - 5.6	02
Please Note: Prediabetes: 5.7 - 6.4 Diabetes: >6.4 Glycemic control for adults with diabetes: <7.0					02
DHEA-Sulfate	**33.3**	**Low**	ug/dL	84.8 - 378.0	02
Testosterone, Serum	**4**	**Low**	ng/dL	8 - 48	02
Prolactin	10.9		ng/mL	4.8 - 23.3	02
Estradiol	205.3		pg/mL		02
Adult Female:					
Follicular phase				12.5 - 166.0	
Ovulation phase				85.8 - 498.0	
Luteal phase				43.8 - 211.0	
Postmenopausal				<6.0 - 54.7	
Pregnancy					
1st trimester				215.0 - >4300.0	
Girls (1-10 years)				6.0 - 27.0	
Roche ECLIA methodology					
Vitamin D, 25-Hydroxy	30.7		ng/mL	30.0 - 100.0	02
Vitamin D deficiency has been defined by the Institute of Medicine and an Endocrine Society practice guideline as a level of serum 25-OH vitamin D less than 20 ng/mL (1,2). The Endocrine Society went on to further define vitamin D insufficiency as a level between 21 and 29 ng/mL (2). 1. IOM (Institute of Medicine). 2010. Dietary reference					

Iron and TIBC

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Iron Bind.Cap.(TIBC)	368		ug/dL	250-450
UIBC [01]	307		ug/dL	131-425
Iron [01]	61		ug/dL	27-159
Iron Saturation	17		%	15-55

DHEA, Serum

Test	Current Result and Flag	Previous Result and Date	Units	Reference Interval
Dehydroepiandrosterone (DHEA) [A,02]	54		ng/dL	31-701

Age	
1 - 5 years	0 - 67
6 - 7 years	0 - 110
8 - 10 years	0 - 185
11 - 12 years	0 - 201
13 - 14 years	0 - 318
15 - 16 years	39 - 481
17 - 19 years	40 - 491
>19 years	31 - 701

Vitamin D, 25-Hydroxy

Test	Current Result and Flag	Previous Result and Date		Units	Reference Interval
Vitamin D, 25-Hydroxy [01]	36.1	**26.1**	01/24/2020	ng/mL	30.0-100.0

Vitamin D deficiency has been defined by the Institute of Medicine and an Endocrine Society practice guideline as a level of serum 25-OH vitamin D less than 20 ng/mL (1,2). The Endocrine Society went on to further define vitamin D insufficiency as a level between 21 and 29 ng/mL (2).

1. IOM (Institute of Medicine). 2010. Dietary reference intakes for calcium and D. Washington DC: The National Academies Press.
2. Holick MF, Binkley NC, Bischoff-Ferrari HA, et al. Evaluation, treatment, and prevention of vitamin D deficiency: an Endocrine Society clinical practice guideline. JCEM. 2011 Jul; 96(7):1911-30.

Homocyst(e)ine

Test	Current Result and Flag	Previous Result and Date		Units	Reference Interval
Homocyst(e)ine [01]	9.8	11.9	01/24/2020	umol/L	0.0-14.5