

**Accession # 01035997**Female Sample Report
123 A Street
Sometown, CA 90266**DOB:** 1976-01-01**Age:** 46**Sex:** Female**Last Menstrual Period:**

2022-05-25

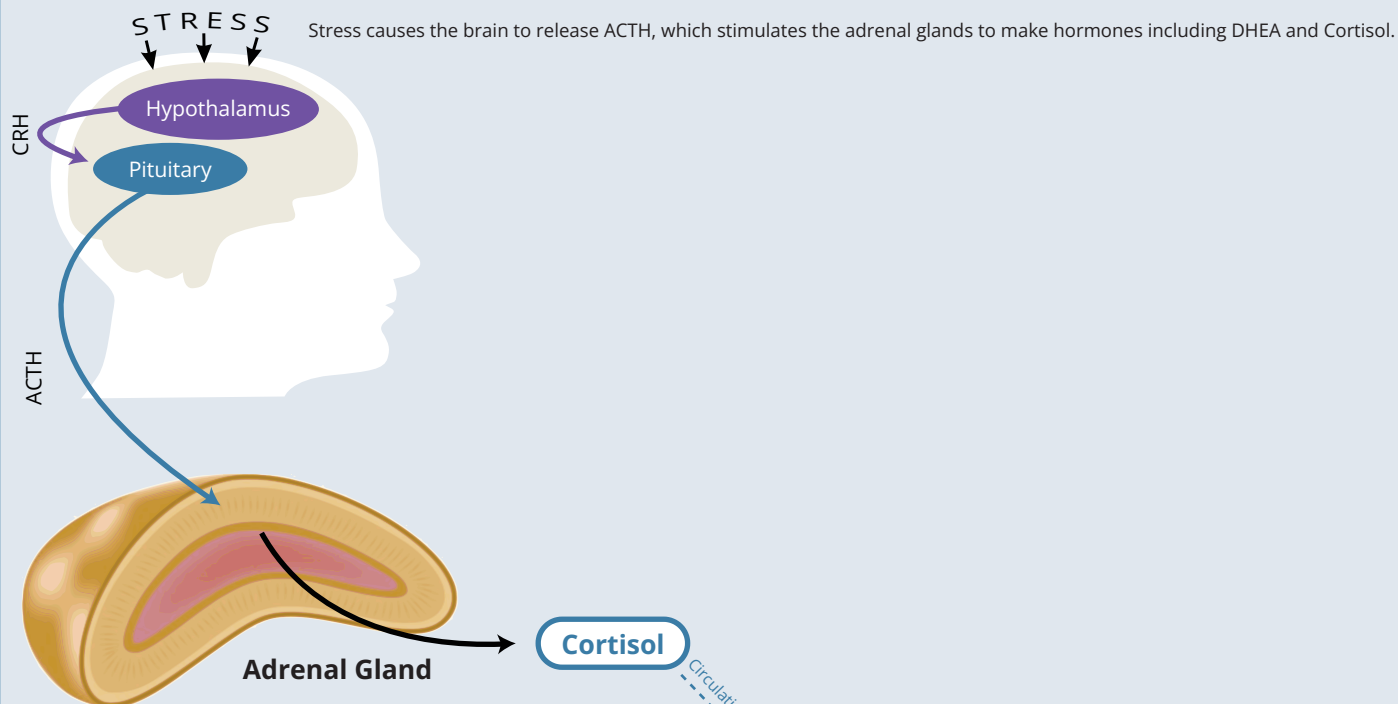
Collection Times:2022-06-13 04:00AM (S)
2022-06-13 04:30AM (S)
2022-06-13 05:00AM (S)
2022-06-13 03:00PM (S)
2022-06-13 08:00PM (S)
2022-06-13 01:00AM (S*)**Ordering Provider:**

Precision Analytical

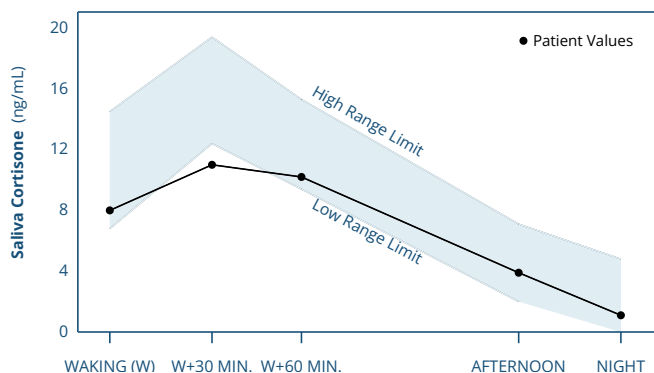
Cortisol Awakening Response

TEST		RESULT	UNITS	NORMAL RANGE
Free Cortisol and Cortisone (Saliva)				
Saliva Cortisol - Waking (W)	Low end of range	1.80	ng/mL	1.6 - 4.6
Saliva Cortisol - W+30 min.	Below range	2.40	ng/mL	3.7 - 8.2
Saliva Cortisol - W+60 min.	Below range	2.20	ng/mL	2.3 - 5.3
Saliva Cortisol - Afternoon	Low end of range	0.42	ng/mL	0.4 - 1.5
Saliva Cortisol - Night	Within range	0.20	ng/mL	0 - 0.9
Saliva Cortisone - Waking (W)	Low end of range	8.00	ng/mL	6.8 - 14.5
Saliva Cortisone - W+30 min.	Below range	11.00	ng/mL	12.4 - 19.4
Saliva Cortisone - W+60 min.	Low end of range	10.20	ng/mL	9.4 - 15.3
Saliva Cortisone - Afternoon	Within range	3.90	ng/mL	2 - 7.1
Saliva Cortisone - Night	Within range	1.10	ng/mL	0 - 4.8
Saliva Cortisol Total	Below range	7.02	ng/mL	9.6 - 19.3
Saliva Cortisone Total	Below range	34.20	ng/mL	36 - 55
Additional Cortisol and Cortisone (Saliva)				
* Saliva Cortisol - Insomnia	Above range	1.10	ng/mL	0 - 0.9
* Saliva Cortisone - Insomnia	Above range	5.43	ng/mL	0 - 4.8

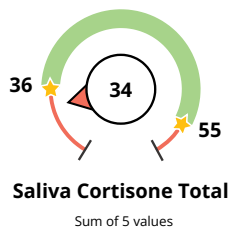
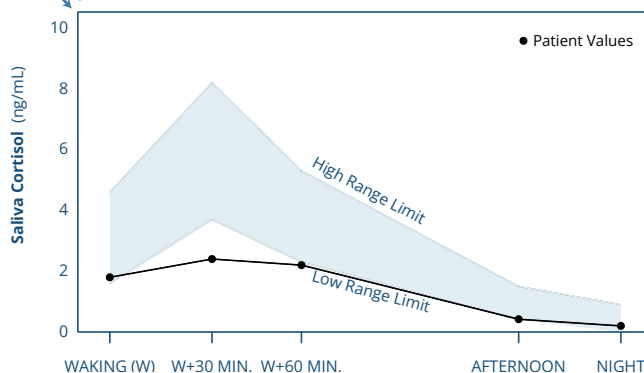
CORTISOL AWAKENING RESPONSE



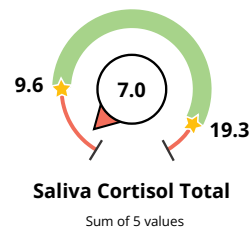
Saliva Free Cortisone Pattern



Saliva Free Cortisol Pattern



Cortisol and Cortisone interconvert (11b-HSD)



The patient submitted an Insomnia salivary sample. The cortisol result for this sample was **1.10ng/mL** (expected range 0-0.9) The cortisone result for this sample was **5.4 ng/mL** (expected range 0-4.8).

The Cortisol Awakening Response (CAR) is the rise in salivary cortisol between the waking sample and the sample collected 30 minutes later. This patient shows a waking cortisol of **1.80ng/mL** and an increase to **2.40ng/mL** after 30.0 minutes. This is an increase of **0.60ng/mL** or **33.3%**. Preliminary research shows that 50-160% or 1.5-4.0ng/mL increases are common with samples collected 30 minutes after waking. These guidelines are considered research only.

This patient shows a salivary cortisol of **2.20ng/mL** measured 60 minutes after waking. This is an increase of **0.40ng/mL** or **22.2%** compared to the waking sample. To date, data suggests that expected results may be 0-70%, and this guideline is considered for research only.

Clinical Support Overview

Thank you for choosing DUTCH for your functional endocrinology testing needs!

Please take a moment to read through the Clinical Support Overview below. These comments are specific to the patient's lab results. These comments are intended for educational purposes only. Specific treatment should be managed by a healthcare provider.

Please review our DUTCH resources for information on reading the DUTCH test:

For DUTCH Overviews and Tutorials, click here: <https://dutchtest.com/tutorials>

To view the steroid pathway chart, click here: <https://dutchtest.com/steroid-pathway>

Alert Comments:

CORTISOL

Review the Cortisol Awakening Response, the percent increase from waking to 30 minutes. Next review the sum of free cortisol as an expression of overall tissue cortisol exposure.

Free Cortisol Levels

- The Saliva Cortisol Total (sum of 5 values) is low. This may indicate low overall cortisol exposure, which is associated with fatigue and poor immune function. The diurnal pattern should be reviewed carefully along with the CAR results on the Adrenal Hormones & Metabolites page. If the CAR is low, this point has a significant influence on the sum of the 5 values, as it is usually the highest point. A low CAR may be associated with short-term events like significantly disrupted sleep the night before testing or more long-term issues such as sleep apnea and chronic psychiatric illness (major depression, generalized anxiety disorder).
- The patient submitted an Insomnia salivary sample. The cortisol result for this sample was **1.10ng/mL** (expected range 0-0.9). The cortisone result was **5.4ng/mL** (expected range 0-4.8).

Reference Range Percentiles

Reference ranges are developed by testing thousands of healthy individuals, while excluding results from outliers or those on impactful medications. A percentile approach is applied, as is done with most labs. Classic reference ranges use the 95th percentile as the upper end of range and the 5th percentile as the lower end of range. Our DUTCH ranges uses the percentiles found in the table below. We feel these ranges reflect the more optimal range sought in functional medicine practices. The table below shows the percentiles used for the reference range of each analyte on the DUTCH report:

Female Reference Ranges (Updated 05.20.2025)									
	Low%	High%	Low	High		Low%	High%	Low	High
b-Pregnanediol	20%	90%	600	2000	Saliva Cortisol Waking (W)	20%	90%	1.6	4.6
a-Pregnanediol	20%	90%	200	740	Saliva Cortisol (W+30 min.)	20%	90%	3.7	8.2
Estrone (E1)	20%	80%	12	26	Saliva Cortisol (W+60 min.)	20%	90%	2.3	5.3
Estradiol (E2)	20%	80%	1.8	4.5	Saliva Cortisol (Afternoon)	20%	90%	0.4	1.5
Estriol (E3)	20%	80%	5	18	Saliva Cortisol (Night)	0	95%	0	0.9
2-OH-E1	20%	80%	5.1	13.1	Saliva Cortisol (2-3 am)	0	90%	0	0.9
4-OH-E1	0	80%	0	1.8	Saliva Cortisone Waking (W)	20%	90%	6.8	14.5
16-OH-E1	20%	80%	0.7	2.6	Saliva Cortisone (W+30 min.)	20%	90%	12.4	19.4
2-Methoxy-E1	20%	80%	2.5	6.5	Saliva Cortisone (W+60 min.)	20%	90%	9.4	15.3
2-OH-E2	0	80%	0	3.1	Saliva Cortisone Afternoon	20%	90%	2	7.1
4-OH-E2	0	80%	0	0.52	Saliva Cortisone Night	0	95%	0	4.8
2-16-ratio	20%	80%	2.69	11.83	Saliva Cortisone (2-3 am)	0	95%	0	4.8
2-4-ratio	20%	80%	5.4	12.62	Cortisol Clearance Rate (CCR)	20%	80%	45	95
2Me-2OH-ratio	20%	80%	0.39	0.67	Melatonin (6-OHMS)	20%	90%	10	85
DHEA-S	20%	90%	20	750	8-OHdG	0	90%	0	5.2
Androsterone	20%	80%	200	1650	Methylmalonate	0	90%	0	2.5
Etiocholanolone	20%	80%	200	1000	Xanthurenate	0	90%	0.12	1.2
Testosterone	20%	80%	2.3	14	Kynurenate	0	90%	0.8	4.5
5a-DHT	0	80%	0	6.6	b-Hydroxyisovalerate	0	90%	0	12.5
5a-Androstanediol	20%	80%	6	30	Pyroglutamate	10%	90%	28	58
5b-Androstanediol	20%	80%	12	75	Indican	0	90%	0	100
Epi-Testosterone	20%	80%	2.3	14	Homovanillate	10%	95%	3	11
a-THF	20%	90%	75	370	Vanilmandelate	10%	95%	2.2	5.5
b-THF	20%	90%	1050	2500	Quinolinat	0	90%	0	9.6
b-THE	20%	90%	1550	3800	Calculated Values				
% = population percentile: Example - a high limit of 90% means results higher than 90% of the women tested for the reference range will be designated as "high."					Total DHEA Production	20%	80%	500	3000
					Total Estrogens	20%	80%	35	70
					Metabolized Cortisol	20%	90%	2750	6500
					Saliva Cortisol Total	20%	90%	9.6	19.3
					Saliva Cortisone Total	20%	90%	36	55