



Accession # 01154544

Female Sample Report

DOB: 1987-11-06

Age: 37

Sex: Female

Last Menstrual Period:

2025-05-26

Collection Times:

2025-06-13 04:00AM (S1)

2025-06-13 04:30AM (S2)

2025-06-13 05:00AM (S3)

2025-06-12 03:00PM (S4)

2025-06-12 08:00PM (S5)

Ordering Provider:

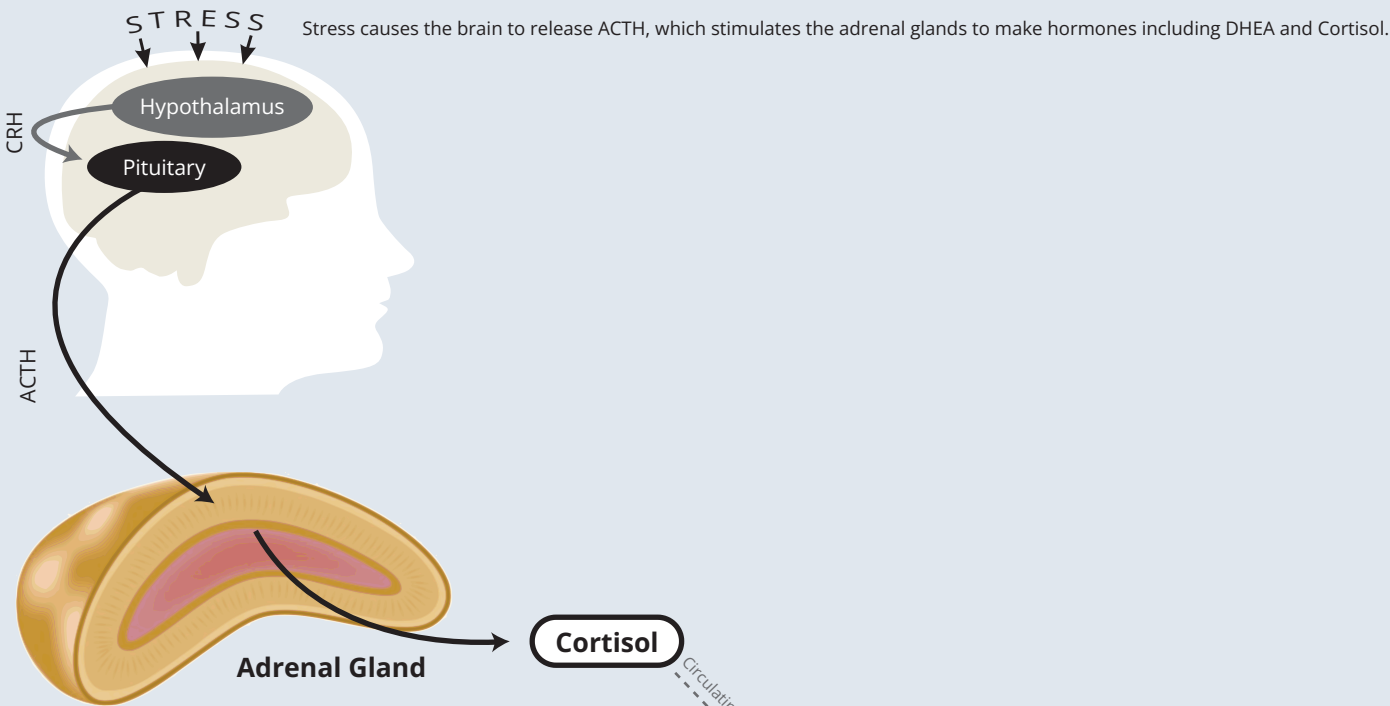
Test Provider MD

Cortisol Awakening Response

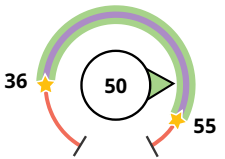
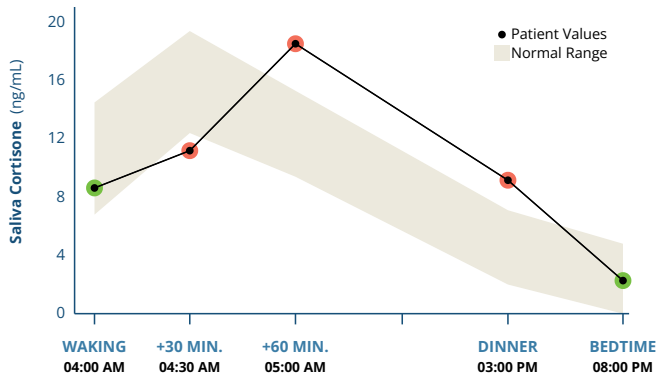
TEST		RESULT	UNITS	NORMAL RANGE
Free Cortisol and Cortisone (Saliva)				
Cortisol Awakening Response (CAR)	Below range	0.46	ng/mL	1.5 - 4
Cortisol (S1) - Waking	Within range	2.52	ng/mL	1.6 - 4.6
Cortisol (S2) - +30 Min.	Below range	2.98	ng/mL	3.7 - 8.2
Cortisol (S3) - +60 Min.	Within range	4.13	ng/mL	2.3 - 5.3
Cortisol (S4) - Dinner	Above range	1.78	ng/mL	0.4 - 1.5
Cortisol (S5) - Bedtime	Within range	0.28	ng/mL	0 - 0.9
Cortisone (S1) - Waking	Within range	8.63	ng/mL	6.8 - 14.5
Cortisone (S2) - +30 Min.	Below range	11.19	ng/mL	12.4 - 19.4
Cortisone (S3) - +60 Min.	Above range	18.53	ng/mL	9.4 - 15.3
Cortisone (S4) - Dinner	Above range	9.16	ng/mL	2 - 7.1
Cortisone (S5) - Bedtime	Within range	2.27	ng/mL	0 - 4.8
Saliva Cortisol Total (S1 - 5)	Within range	11.69	ng/mL	9.6 - 19.3
Saliva Cortisone Total (S1 - 5)	Within range	49.79	ng/mL	36 - 55

CORTISOL AWAKENING RESPONSE

● Optimal Luteal Range ● Postmenopausal Range ● Out of Range ★ Edge of Range



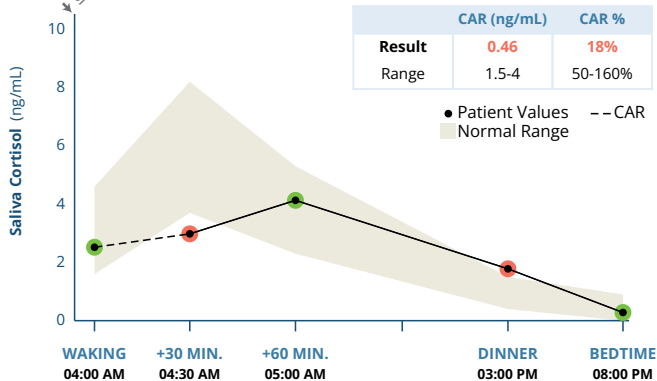
Saliva Free Cortisone Pattern



Saliva Cortisone Total

Sum of S1 - 5

Saliva Free Cortisol Pattern



	CAR (ng/mL)	CAR %
Result	0.46	18%
Range	1.5-4	50-160%

● Patient Values -- CAR
■ Normal Range



Saliva Cortisol Total

Sum of S1 - 5

Cortisol and Cortisone interconvert (11b-HSD)

Cortisol-related Patient or Sample Comments:

#1. Assess the daily free cortisol pattern including the CAR. More information is available [here](#) and [here](#).

- One or more points on the Saliva Free Cortisol Pattern are out of the optimal range. Note the time of day and whether out-of-range results are low or high at each point.
- The CAR is **18.0%**, which is below the optimal range. A low CAR may indicate chronic stress or sleep issues. Review the morning sample times carefully. The first two samples of the day are used to calculate the CAR and should be taken immediately after waking and 30 minutes after waking.

#2. Assess the daily total (sum of S1-S5) of free cortisol in circulation. More information is available [here](#).

- The Saliva Cortisol Total is **11.7 ng/mL**, which is within the optimal range. This indicates normal overall cortisol levels.

ADRENAL

#1. Assess if cortisone (inactive) adds more insight to the free cortisol assessment. More information is available [here](#).

Cortisol is an active adrenal glucocorticoid, while cortisone is an inactive "storage" form. In the saliva gland, a significant amount of cortisol is converted to cortisone before excretion into the saliva. Therefore, salivary cortisone should be considered a reflection or "shadow" of systemic cortisol. The degree to which this happens in an individual may vary. If free cortisone is significantly higher than free cortisol, it may indicate free cortisol levels were higher in circulation (serum) than the salivary free cortisol implies. If free cortisone is lower than free cortisol, this may indicate free cortisol levels were not as high in circulation (serum) as salivary free cortisol implies.

- In this case, free cortisone is somewhat higher than the free cortisol. To the degree that this is true, it may indicate the free cortisol levels were higher in circulation (serum) than the cortisol levels in the saliva imply.

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

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

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

Finally, please review the patient's results along with their requisition form. It is designed to capture relevant medications, symptoms, diagnoses, sample collection, and notes that may be helpful in interpreting the results.

Additional Comments

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 9.24.2026)									
	Low%	High%	Low	High		Low%	High%	Low	High
b-Pregnanediol	20%	90%	600	2000	Cortisol Awakening Response (CAR)	20%	90%	1.5	4
a-Pregnanediol	20%	90%	200	740	Cortisol (S0) - Mid-Sleep	0	90%	0	0.9
Estrone (E1)	20%	80%	12	26	Cortisol (S1) - Waking	20%	90%	1.6	4.6
Estradiol (E2)	20%	80%	1.8	4.5	Cortisol (S2) - +30 Min.	20%	90%	3.7	8.2
Estriol (E3)	20%	80%	5	18	Cortisol (S3) - +60 Min.	20%	90%	2.3	5.3
2-OH-E1	20%	80%	5.1	13.1	Cortisol (SX) - Mid-Day	20%	90%	0.5	2.4
4-OH-E1	0	80%	0	1.8	Cortisol (S4) - Dinner	20%	90%	0.4	1.5
16-OH-E1	20%	80%	0.7	2.6	Cortisol (S5) - Bedtime	0	95%	0	0.9
2-Methoxy-E1	20%	80%	2.5	6.5	Cortisone (S0) - Mid-Sleep	0	90%	0	4.8
2-OH-E2	0	80%	0	3.1	Cortisone (S1) - Waking	20%	90%	6.8	14.5
4-OH-E2	0	80%	0	0.52	Cortisone (S2) - +30 Min.	20%	90%	12.4	19.4
2-16-ratio	20%	80%	2.69	11.83	Cortisone (S3) - +60 Min.	20%	90%	9.4	15.3
2-4-ratio	20%	80%	5.4	12.62	Cortisone (SX) - Mid-Day	20%	90%	3.5	9.5
2Me-2OH-ratio	20%	80%	0.39	0.67	Cortisone (S4) - Dinner	20%	90%	2	7.1
DHEA-S	20%	90%	20	750	Cortisone (S5) - Bedtime	0	95%	0	4.8
Androsterone	20%	80%	200	1650	Cortisol Clearance Rate (CCR)	20%	80%	49	110
Etiocholanolone	20%	80%	200	1000	Melatonin (6-OHMS)	20%	90%	10	85
Testosterone	20%	80%	2.3	14	8-OHdG	0	90%	0	5.2
5a-DHT	0	80%	0	6.6	Methylmalonate	0	90%	0	2.5
5a-Androstenediol	20%	80%	6	30	Xanthurenate	0	90%	0.12	1.2
5b-Androstenediol	20%	80%	12	75	Kynurenate	0	90%	0.8	4.5
Epi-Testosterone	20%	80%	2.3	14	b-Hydroxyisovalerate	0	90%	0	12.5
a-THF	20%	90%	275	1160	Pyroglutamate	10%	90%	28	58
b-THF	20%	90%	750	1800	Indican	0	90%	0	100
b-THE	20%	90%	1550	3800	Homovanillate	10%	95%	3	11
					Vanilmandelate	10%	95%	2.2	5.5
					Quinolinate	0	90%	0	9.6
					Calculated Values				
					Total DHEA Production	20%	80%	500	3000
% = 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 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



Accession # 01154545

Male Sample Report

OR

DOB: 1987-11-06

Age: 37

Sex: Male

Collection Times:

2025-06-13 04:00AM (S1)

2025-06-13 04:30AM (S2)

2025-06-13 05:00AM (S3)

2025-06-12 03:00PM (S4)

2025-06-12 08:00PM (S5)

Ordering Provider:

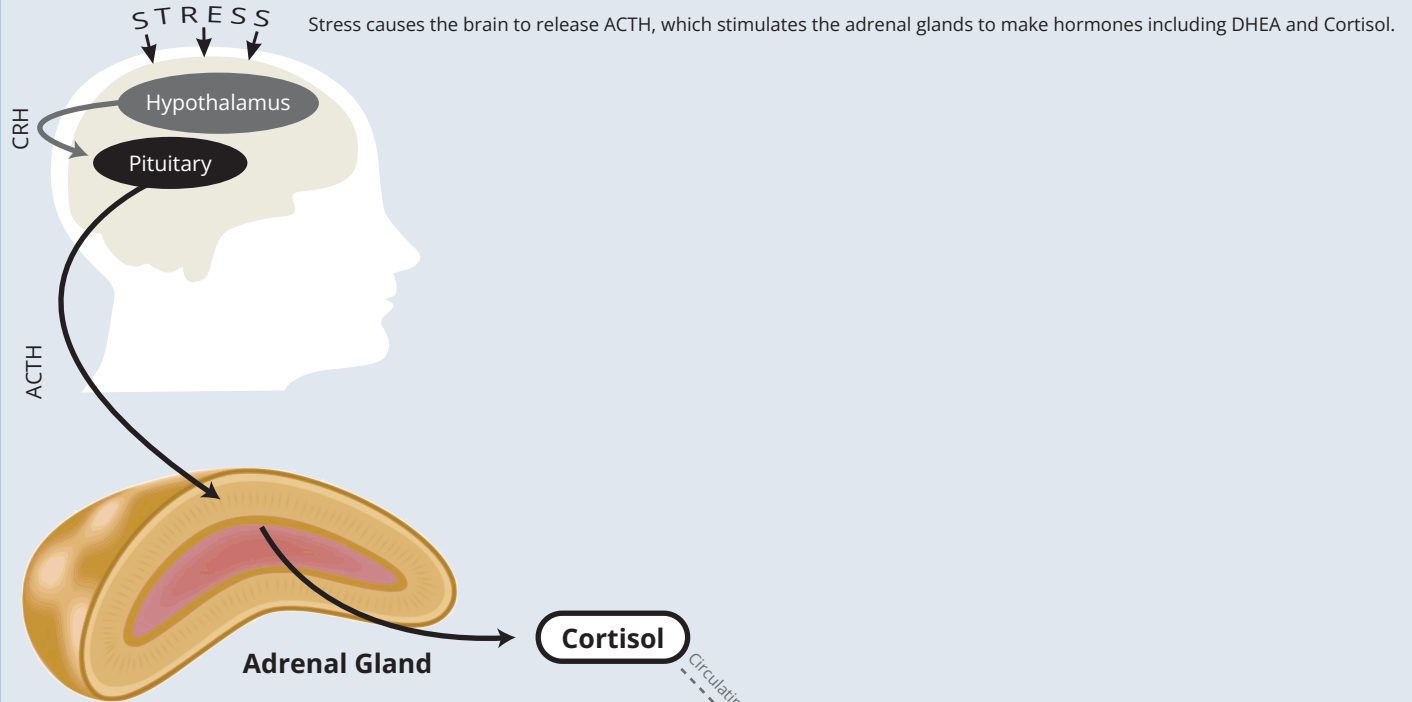
Test Provider MD

Cortisol Awakening Response

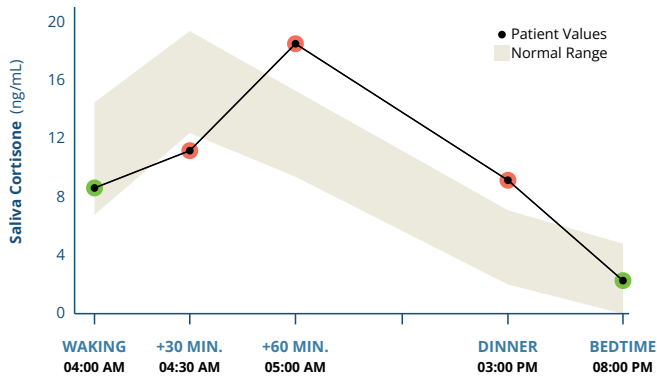
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Cortisol (S3) - +60 Min.	Within range	4.13	ng/mL	2.3 - 5.3
Cortisol (S4) - Dinner	Above range	1.78	ng/mL	0.4 - 1.5
Cortisol (S5) - Bedtime	Within range	0.28	ng/mL	0 - 0.9
Cortisone (S1) - Waking	Within range	8.63	ng/mL	6.8 - 14.5
Cortisone (S2) - +30 Min.	Below range	11.19	ng/mL	12.4 - 19.4
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CORTISOL AWAKENING RESPONSE

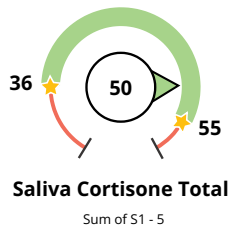
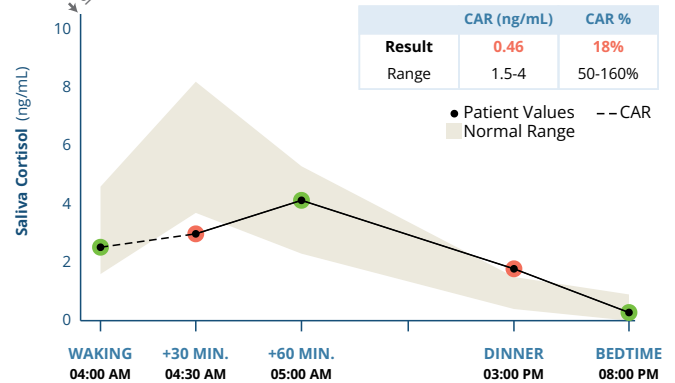
● Normal, Age 18 - 40 (Androgens) ● Age 41 - 60+ (Androgens) ● Out of Range ★ Edge of Range



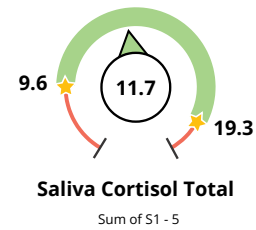
Saliva Free Cortisone Pattern



Saliva Free Cortisol Pattern



Cortisol and Cortisone interconvert (11b-HSD)



Cortisol-related Patient or Sample Comments:

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#2. Assess the daily total (sum of S1-S5) of free cortisol in circulation.

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ADRENAL

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Cortisol is an active adrenal glucocorticoid, while cortisone is an inactive "storage" form. In the saliva gland, a significant amount of cortisol is converted to cortisone before excretion into the saliva. Therefore, salivary cortisone should be considered a reflection or "shadow" of systemic cortisol. The degree to which this happens in an individual may vary. If free cortisone is significantly higher than free cortisol, it may indicate free cortisol levels were higher in circulation (serum) than the salivary free cortisol implies. If free cortisone is lower than free cortisol, this may indicate free cortisol levels were not as high in circulation (serum) as salivary free cortisol implies.

If the cortisone is significantly different from cortisol, there will be a bulleted comment below.

- In this case, free cortisone is somewhat higher than the free cortisol. To the degree that this is true, it may indicate the free cortisol levels were higher in circulation (serum) than the cortisol levels in the saliva imply.

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a-Pregnanediol	10%	90%	20	130	Cortisol (S0) - Mid-Sleep	0	90%	0	0.9
Estrone (E1)	10%	90%	4	16	Cortisol (S1) - Waking	20%	90%	1.6	4.6
Estradiol (E2)	10%	90%	0.5	2.2	Cortisol (S2) - +30 Min.	20%	90%	3.7	8.2
Estriol (E3)	10%	90%	2	8	Cortisol (S3) - +60 Min.	20%	90%	2.3	5.3
2-OH-E1	0	90%	0	5.9	Cortisol (SX) - Mid-Day	20%	90%	0.7	2.1
4-OH-E1	0	90%	0	0.8	Cortisol (S4) - Dinner	20%	90%	0.4	1.5
16-OH-E1	0	90%	0	1.2	Cortisol (S5) - Bedtime	0	95%	0	0.9
2-Methoxy-E1	0	90%	0	2.8	Cortisone (S0) - Mid-Sleep	0	95%	0	4.8
2-OH-E2	0	90%	0	1.2	Cortisone (S1) - Waking	20%	90%	6.8	14.5
4-OH-E2	0	90%	0	0.25	Cortisone (S2) - +30 Min.	20%	90%	12.4	19.4
2-16-ratio	20%	80%	2.85	9.88	Cortisone (S3) - +60 Min.	20%	90%	9.4	15.3
2-4-ratio	20%	80%	6.44	12.6	Cortisone (SX) - Mid-Day	20%	90%	2.8	8.4
2Me-2OH-ratio	20%	80%	0.4	0.7	Cortisone (S4) - Dinner	20%	90%	2	7.1
DHEA-S	20%	90%	30	1500	Cortisone (S5) - Bedtime	0	95%	0	4.8
Androsterone	20%	80%	500	3000	Cortisol Clearance Rate (CCR)	20%	80%	80	178
Etiocholanolone	20%	80%	400	1500	Melatonin (6-OHMS)	20%	90%	10	85
Testosterone	20%	90%	25	115	8-OHdG	0	90%	0	8.8
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5a-Androstenediol	20%	90%	30	250	Xanthurenate	0	90%	0.2	1.9
5b-Androstenediol	20%	90%	40	250	Kynurenate	0	90%	1	6.6
Epi-Testosterone	20%	90%	25	115	b-Hydroxyisovalerate	0	90%	0	18
a-THF	20%	90%	590	2380	Pyroglutamate	10%	90%	38	83
b-THF	20%	90%	1340	3070	Indican	0	90%	0	131
b-THE	20%	90%	2350	5800	Homovanillate	10%	95%	4	16
					Vanilmandelate	10%	95%	2.5	7.5
					Quinolinate	0	90%	0	12.5
					Calculated Values				
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					Total Estrogens	10%	90%	10	34
% = population percentile: Example - a high limit of 90% means results higher than 90% of the men tested for the reference range will be designated as "high."					Metabolized Cortisol	20%	90%	4610	10800
					Saliva Cortisol Total	20%	90%	9.6	19.3
					Saliva Cortisone Total	20%	90%	36	55