dutchcar

Accession # 01093514

Female Sample Report
123 A Street
Sometown, SC 90266
DOB: 1976-01-01
Age: 36
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:

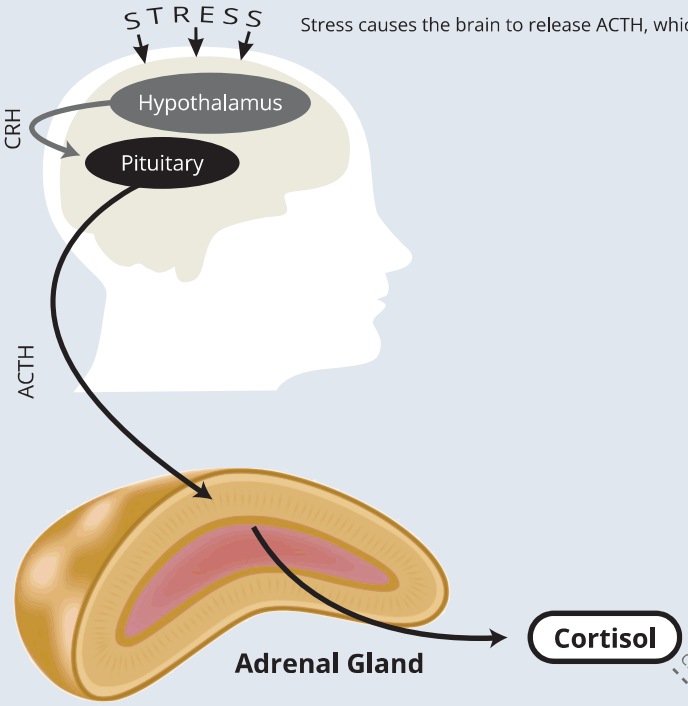
Test Provider MD

Cortisol Awakening Response

TEST		RESULT	UNITS	NORMAL RANGE
Free Cortisol and Cortisone (Saliva)				
Cortisol Awakening Response (CAR)	Below range	0.60	ng/mL	1.5 - 4
Cortisol (S1) - Waking	Low end of range	1.80	ng/mL	1.6 - 4.6
Cortisol (S2) - +30 Min.	Below range	2.40	ng/mL	3.7 - 8.2
Cortisol (S3) - +60 Min.	Below range	2.20	ng/mL	2.3 - 5.3
Cortisol (S4) - Dinner	Low end of range	0.42	ng/mL	0.4 - 1.5
Cortisol (S5) - Bedtime	Within range	0.20	ng/mL	0 - 0.9
Cortisone (S1) - Waking	Low end of range	8.00	ng/mL	6.8 - 14.5
Cortisone (S2) - +30 Min.	Below range	11.00	ng/mL	12.4 - 19.4
Cortisone (S3) - +60 Min.	Low end of range	10.20	ng/mL	9.4 - 15.3
Cortisone (S4) - Dinner	Within range	3.90	ng/mL	2 - 7.1
Cortisone (S5) - Bedtime	Within range	1.10	ng/mL	0 - 4.8
Saliva Cortisol Total (S1 - 5)	Below range	7.02	ng/mL	9.6 - 19.3
Saliva Cortisone Total (S1 - 5)	Below range	34.20	ng/mL	36 - 55

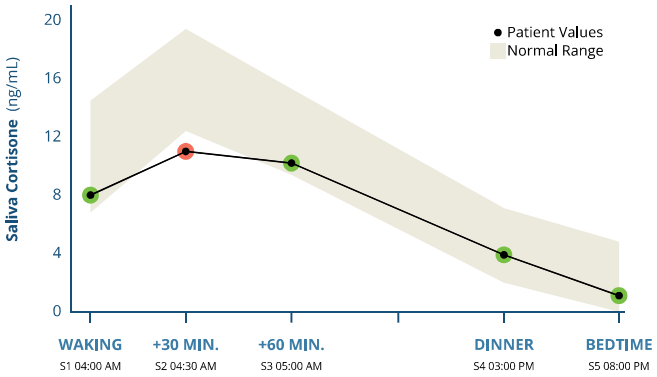
CORTISOL AWAKENING RESPONSE

Optimal Luteal Range | Postmenopausal Range | Out of Range | Edge of Range



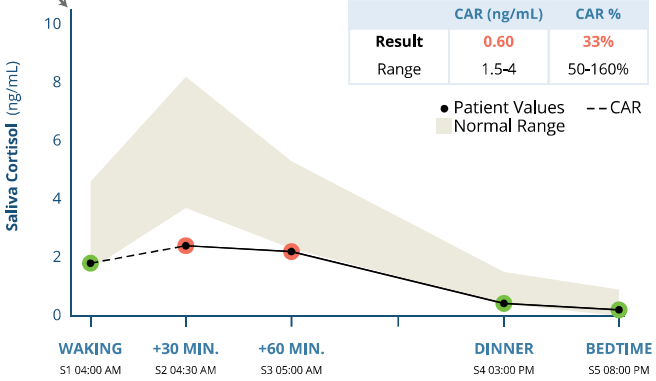
Stress causes the brain to release ACTH, which stimulates the adrenal glands to make hormones including DHEA and Cortisol.

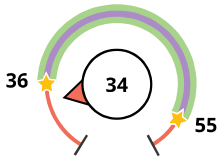
Saliva Free Cortisone Pattern



Saliva Free Cortisol Pattern

	CAR (ng/mL)	CAR %
Result	0.60	33%
Range	1.5-4	50-160%

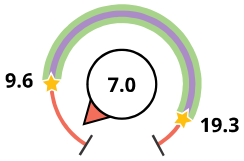




Saliva Cortisone Total

Sum of S1 - 5

Cortisol and Cortisone interconvert (11b-HSD)



Saliva Cortisol Total

Sum of S1 - 5

Cortisol-related Patient or Sample Comments:

#1. Assess the daily free cortisol pattern including the CAR

- 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 **33.0%**, 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

- The Saliva Cortisol Total is **7.0 ng/mL**, which is below the optimal range. This indicates low overall cortisol levels. Review the Saliva Free Cortisol Pattern and CAR results carefully. The 30-minute point is usually the highest cortisol point of the day. If the CAR and the 30 minute point are low, this may lower the Saliva Cortisol Total.

ADRENAL

#1. Assess if cortisone (inactive) adds more insight to the free cortisol assessment

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:
For DUTCH Overviews and Tutorials, click here: https://dutchtest.com/tutorials
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 10.15.2025)									
	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%	45	95
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-Androstanediol	20%	80%	6	30	Xanthurenate	0	90%	0.12	1.2
5b-Androstanediol	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%	75	370	Pyroglutamate	10%	90%	28	58
b-THF	20%	90%	1050	2500	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

dutchcar

Accession # 01093515

Male Sample Report
123 A Street
Sometown, CA 90266

DOB: 1976-01-01
Age: 49
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:

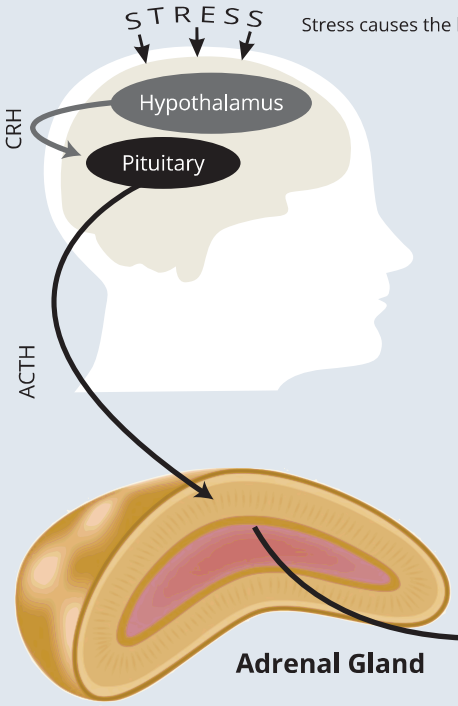
Test Provider MD

Cortisol Awakening Response

TEST		RESULT	UNITS	NORMAL RANGE
Free Cortisol and Cortisone (Saliva)				
Cortisol Awakening Response (CAR)	Within range	5.30	ng/mL	1.5 - 4
Cortisol (S1) - Waking	Within range	2.52	ng/mL	1.6 - 4.6
Cortisol (S2) - +30 Min.	High end of range	7.80	ng/mL	3.7 - 8.2
Cortisol (S3) - +60 Min.	Above range	5.40	ng/mL	2.3 - 5.3
Cortisol (S4) - Dinner	Above range	1.70	ng/mL	0.4 - 1.5
Cortisol (S5) - Bedtime	Within range	0.50	ng/mL	0 - 0.9
Cortisone (S1) - Waking	Within range	8.63	ng/mL	6.8 - 14.5
Cortisone (S2) - +30 Min.	Within range	15.10	ng/mL	12.4 - 19.4
Cortisone (S3) - +60 Min.	Within range	12.20	ng/mL	9.4 - 15.3
Cortisone (S4) - Dinner	Within range	6.20	ng/mL	2 - 7.1
Cortisone (S5) - Bedtime	Within range	2.20	ng/mL	0 - 4.8
Saliva Cortisol Total (S1 - 5)	High end of range	17.92	ng/mL	9.6 - 19.3
Saliva Cortisone Total (S1 - 5)	Within range	44.33	ng/mL	36 - 55

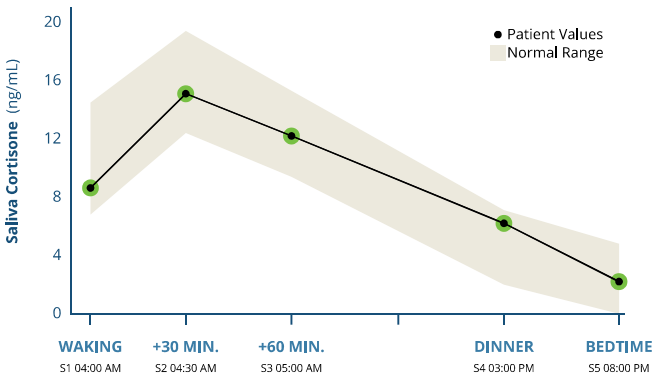
CORTISOL AWAKENING RESPONSE

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



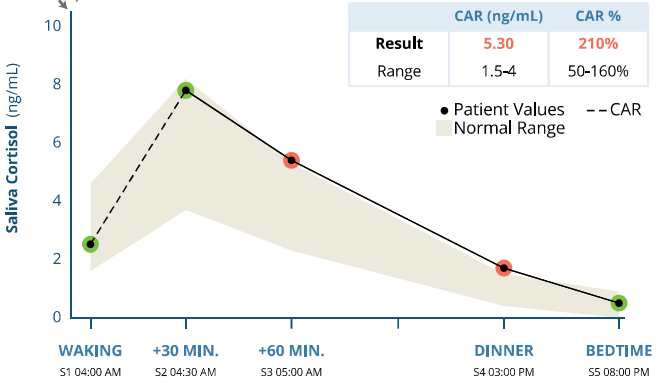
Stress causes the brain to release ACTH, which stimulates the adrenal glands to make hormones including DHEA and Cortisol.

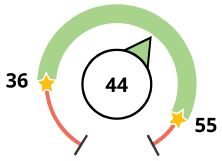
Saliva Free Cortisone Pattern



Saliva Free Cortisol Pattern

	CAR (ng/mL)	CAR %
Result	5.30	210%
Range	1.5-4	50-160%

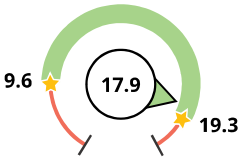




Saliva Cortisone Total

Sum of S1 - 5

Cortisol and Cortisone interconvert (11b-HSD)



Saliva Cortisol Total

Sum of S1 - 5

Cortisol-related Patient or Sample Comments:

#1. Assess the daily free cortisol pattern including the CAR

- 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 **210%**, which is above the optimal range. A high CAR may indicate an adaptive response to increased physical or emotional stress.

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

- The Saliva Cortisol is **17.9 ng/mL**, which is within the optimal range, but towards the high end. This may be relevant if the patient reported high cortisol symptoms or if free cortisol is high at some points during the day.

ADRENAL

#1. Assess if cortisone (inactive) adds more insight to the free cortisol assessment

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 in the saliva is somewhat lower than the free cortisol. To the degree that this is true, it may indicate the free cortisol levels may not be quite as high in circulation (serum) as the cortisol levels in the saliva imply.

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Additional Comments

Reference Range Percentiles

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Male Reference Ranges (Updated 10.15.2025)

	Low%	High%	Low	High
b-Pregnanediol	10%	90%	75	400
a-Pregnanediol	10%	90%	20	130
Estrone (E1)	10%	90%	4	16
Estradiol (E2)	10%	90%	0.5	2.2
Estriol (E3)	10%	90%	2	8
2-OH-E1	0	90%	0	5.9
4-OH-E1	0	90%	0	0.8
16-OH-E1	0	90%	0	1.2
2-Methoxy-E1	0	90%	0	2.8
2-OH-E2	0	90%	0	1.2
4-OH-E2	0	90%	0	0.25
2-16-ratio	20%	80%	2.85	9.88
2-4-ratio	20%	80%	6.44	12.6
2Me-2OH-ratio	20%	80%	0.4	0.7
DHEA-S	20%	90%	30	1500
Androsterone	20%	80%	500	3000
Etiocholanolone	20%	80%	400	1500
Testosterone	20%	90%	25	115
5a-DHT	20%	90%	5	25
5a-Androstanediol	20%	90%	30	250
5b-Androstanediol	20%	90%	40	250
Epi-Testosterone	20%	90%	25	115
a-THF	20%	90%	175	700
b-THF	20%	90%	1750	4000
b-THE	20%	90%	2350	5800

	Low%	High%	Low	High
Cortisol Awakening Response (CAR)	20%	90%	1.5	4
Cortisol (S0) - Mid-Sleep	0	90%	0	0.9
Cortisol (S1) - Waking	20%	90%	1.6	4.6
Cortisol (S2) - +30 Min.	20%	90%	3.7	8.2
Cortisol (S3) - +60 Min.	20%	90%	2.3	5.3
Cortisol (SX) - Mid-Day	20%	90%	0.5	2.4
Cortisol (S4) - Dinner	20%	90%	0.4	1.5
Cortisol (S5) - Bedtime	0	95%	0	0.9
Cortisone (S0) - Mid-Sleep	0	95%	0	0.9
Cortisone (S1) - Waking	20%	90%	6.8	14.5
Cortisone (S2) - +30 Min.	20%	90%	12.4	19.4
Cortisone (S3) - +60 Min.	20%	90%	9.4	15.3
Cortisone (SX) - Mid-Day	20%	90%	3.5	9.5
Cortisone (S4) - Dinner	20%	90%	2	7.1
Cortisone (S5) - Bedtime	0	95%	0	4.8
Cortisol Clearance Rate (CCR)	20%	80%	80	160
Melatonin (6-OHMS)	20%	90%	10	85
8-OHdG	0	90%	0	8.8
Methylmalonate	0	90%	0	3.5
Xanthurenate	0	90%	0.2	1.9
Kynurenate	0	90%	1	6.6
b-Hydroxyisovalerate	0	90%	0	18
Pyroglutamate	10%	90%	38	83
Indican	0	90%	0	131
Homovanillate	10%	95%	4	16
Vanilmandelate	10%	95%	2.5	7.5
Quinolinate	0	90%	0	12.5
Calculated Values				
Total DHEA Production	20%	80%	1000	5500
Total Estrogens	10%	90%	10	34
Metabolized Cortisol	20%	90%	4550	10000
Saliva Cortisol Total	20%	90%	9.6	19.3
Saliva Cortisone Total	20%	90%	36	55

% = 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."