

**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:

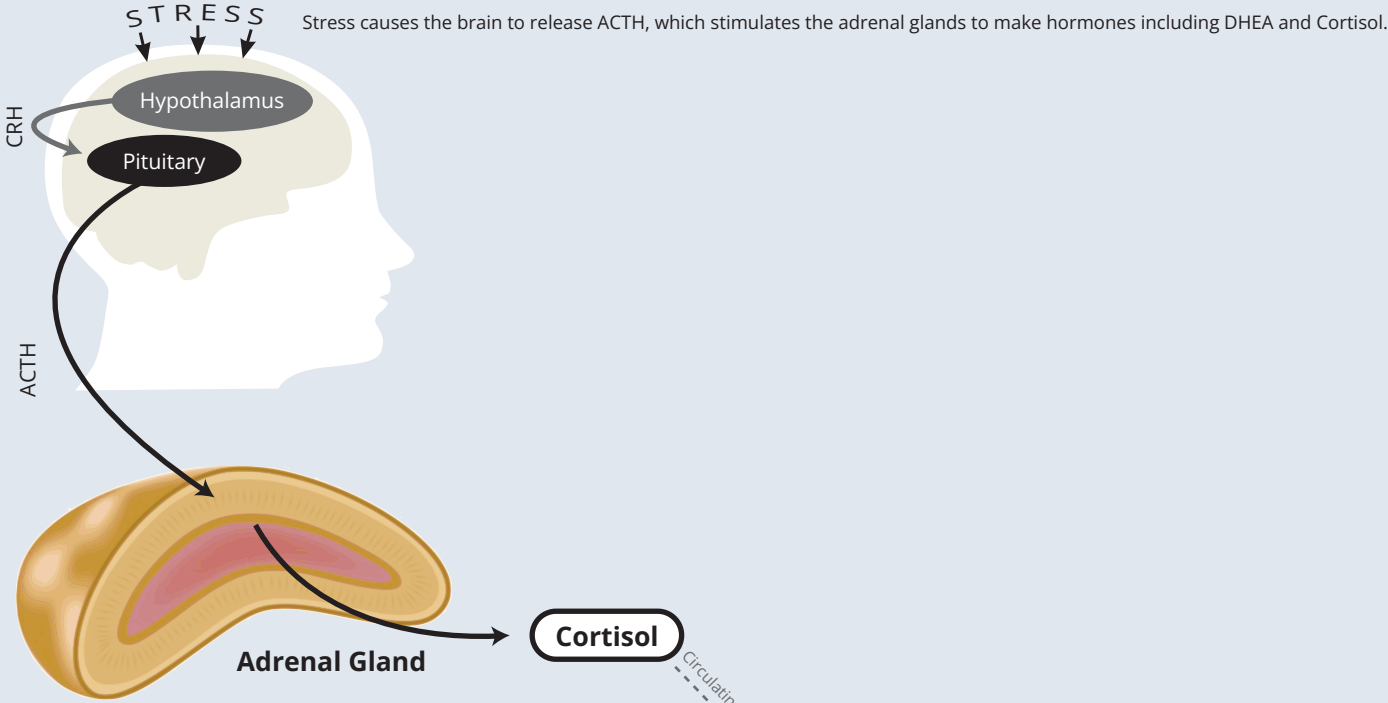
Test Provider MD

Cortisol Awakening Response

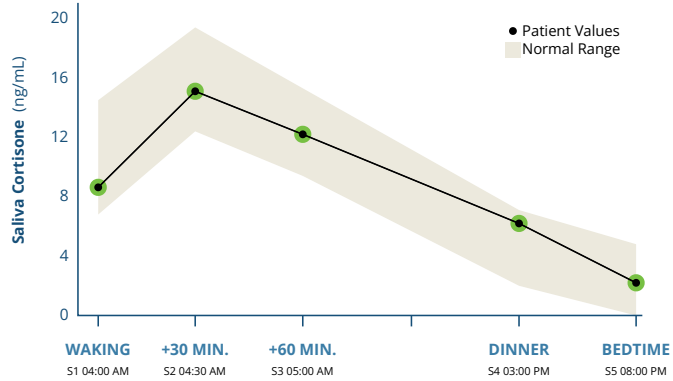
TEST		RESULT	UNITS	NORMAL RANGE
Free Cortisol and Cortisone (Saliva)				
Cortisol Awakening Response (CAR)	Above range	5.30	ng/mL	1.5 - 4
Cortisol (S1) - Waking	Within range	2.52	ng/mL	1.6 - 4.6
Cortisol (S2) - +30 Min.	High end of range	7.80	ng/mL	3.7 - 8.2
Cortisol (S3) - +60 Min.	Above range	5.40	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

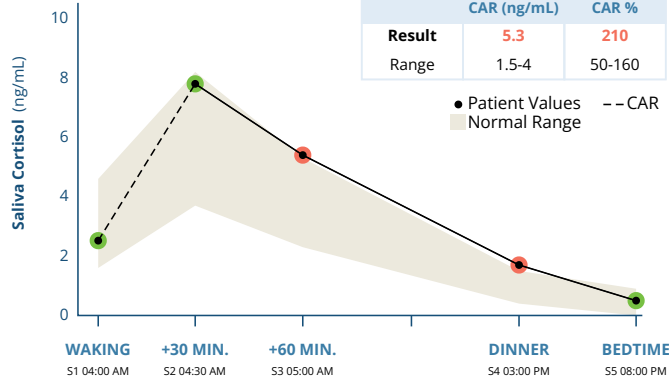
● Normal, Age 18 - 40 (Androgens) ● Age 41 - 60+ (Androgens) ● Out of Range ★ Edge of Range



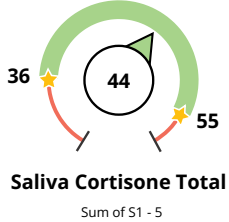
Saliva Free Cortisone Pattern



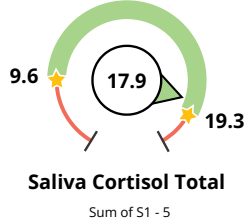
Saliva Free Cortisol Pattern



	CAR (ng/mL)	CAR %
Result	5.3	210
Range	1.5-4	50-160



Cortisol and Cortisone interconvert (11b-HSD)



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 the range. A high CAR may indicate an adaptive response to stress.

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

- The Saliva Cortisol (the sum of the 5 points on the Daily Free Cortisol Pattern) is **17.9ng/mg**, which is within the optimal range, but towards the high end. This may be relevant if the patient reported high cortisol symptoms or if Metabolized Cortisol high.

ADRENAL

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

- Cortisol is the 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 levels may imply. 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 imply.

#2. Assess if there is a whole-body preference for (inactive) cortisone or (active) cortisol

- The Systemic Preference slider reflects the balance between cortisol (THF) and cortisone (THE) metabolites and is influenced by systemic cortisol needs. As these metabolites are processed through the liver, the body may shift to cortisol (THF) in response to acute stressors (e.g., immune activation or infection), or toward cortisone (THE) with chronic stress (e.g., long-term inflammation or illness). Review the patient's result to determine if they are out of range.

A rightward shift (toward cortisol) paired with elevated free cortisol, may contribute to elevated tissue cortisol. If paired with low free cortisol, it may be helping preserve active cortisol in the systemic tissues.

A leftward shift (toward cortisone) paired with elevated free cortisol may be protective, helping reduce tissue exposure. If paired with low free cortisol it may worsen low cortisol symptoms by inactivating available cortisol.

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:

Male Reference Ranges (Updated 05.20.2025)									
	Low%	High%	Low	High		Low%	High%	Low	High
b-Pregnanediol	10%	90%	75	400	Saliva Cortisol Waking (W)	20%	90%	1.6	4.6
a-Pregnanediol	10%	90%	20	130	Saliva Cortisol (W+30 min.)	20%	90%	3.7	8.2
Estrone (E1)	10%	90%	4	16	Saliva Cortisol (W+60 min.)	20%	90%	2.3	5.3
Estradiol (E2)	10%	90%	0.5	2.2	Saliva Cortisol (Afternoon)	20%	90%	0.4	1.5
Estriol (E3)	10%	90%	2	8	Saliva Cortisol (Night)	0	95%	0	0.9
2-OH-E1	0	90%	0	5.9	Saliva Cortisol (2-3 am)	0	90%	0	0.9
4-OH-E1	0	90%	0	0.8	Saliva Cortisone Waking (W)	20%	90%	6.8	14.5
16-OH-E1	0	90%	0	1.2	Saliva Cortisone (W+30 min.)	20%	90%	12.4	19.4
2-Methoxy-E1	0	90%	0	2.8	Saliva Cortisone (W+60 min.)	20%	90%	9.4	15.3
2-OH-E2	0	90%	0	1.2	Saliva Cortisone Afternoon	20%	90%	2	7.1
4-OH-E2	0	90%	0	0.25	Saliva Cortisone Night	0	95%	0	4.8
2-16-ratio	20%	80%	2.85	9.88	Saliva Cortisone (2-3 am)	0	95%	0	4.8
2-4-ratio	20%	80%	6.44	12.6	Cortisol Clearance Rate (CCR)	20%	80%	80	160
2Me-2OH-ratio	20%	80%	0.4	0.7	Melatonin (6-OHMS)	20%	90%	10	85
DHEA-S	20%	90%	30	1500	8-OHdG	0	90%	0	8.8
Androsterone	20%	80%	500	3000	Methylmalonate	0	90%	0	3.5
Etiocolanolone	20%	80%	400	1500	Xanthurenate	0	90%	0.2	1.9
Testosterone	20%	90%	25	115	Kynurenate	0	90%	1	6.6
5a-DHT	20%	90%	5	25	b-Hydroxyisovalerate	0	90%	0	18
5a-Androstanediol	20%	90%	30	250	Pyroglutamate	10%	90%	38	83
5b-Androstanediol	20%	90%	40	250	Indican	0	90%	0	131
Epi-Testosterone	20%	90%	25	115	Homovanillate	10%	95%	4	16
a-THF	20%	90%	175	700	Vanilmandelate	10%	95%	2.5	7.5
b-THF	20%	90%	1750	4000	Quinolinate	0	90%	0	12.5
b-THE	20%	90%	2350	5800	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%	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