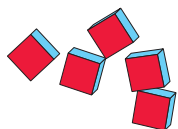




# DHEA-S

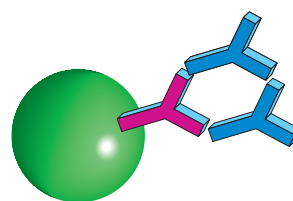
- For the quantitative determination of DHEA-S in serum or plasma
- Analytical sensitivity: <math>< 2 \mu\text{g/dL}</math>
- Broad dynamic range: 2 – 1000  $\mu\text{g/dL}$
- Calibration stability: 28 days
- Imprecision: 10% CV @  $\geq 20 \mu\text{g/dL}$

1-step  
competitive  
binding  
technique



Sample  
containing  
DHEA-S

+



Paramagnetic particles  
coated with goat  
anti-rabbit IgG and  
rabbit anti-DHEA-S

+

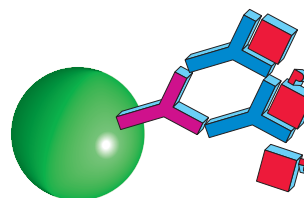


DHEA-S  
alkaline phosphatase  
conjugate



Mix and incubate  
at  $\approx 36.5^\circ\text{C}$  for 14.4 minutes

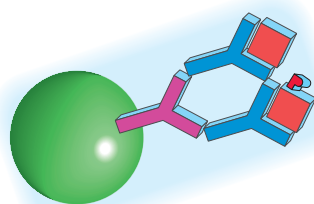
→



Competitive  
binding

→

Wash  
3 times



+

Add  
substrate

→

Incubate  
5 minutes

Dioxetane-P



Dioxetane

Read light

Signal produced is inversely proportional to the DHEA-S concentration in the sample



# DHEA-S

## Summary and Explanation

Dehydroepiandrosterone sulfate (DHEA-S) is a steroid synthesized primarily by the adrenal gland. In those tissues containing sulfatase activity, DHEA-S can be converted to the free steroid DHEA. Subsequently, DHEA and/or DHEA-S may be partially metabolized into active androgens and estrogens.

Serum and plasma DHEA-S levels are found to be the highest of all steroids. Maximum levels of DHEA-S are reached in the third decade of life, then decrease with age in both men and women. The half-life for DHEA-S is approximately 8 to 10 hours, compared to the 30- to 60-minute half-life of other androgens. The long half-life of serum DHEA-S coupled with the limited diurnal variation make DHEA-S a convenient marker for the assessment of adrenal production.

DHEA-S may be used in the differential diagnosis of Cushing's syndrome. DHEA-S may also be used to evaluate the adrenocortical diseases, such as congenital adrenal hyperplasia and adrenal tumors. In hirsute female patients, increased DHEA-S levels have been associated with virilizing adrenal tumors. Patients with polycystic ovary syndrome often demonstrate elevated levels of DHEA-S, suggesting an adrenal androgen contribution to the defect in this disorder.

## Expected Values

Females				Males			
Age (years)	N	Median* (µg/dL)	95% Reference Interval** (µg/dL)	Age (years)	N	Median* (µg/dL)	95% Reference Interval** (µg/dL)
18 - 21	10	177	51 - 321	18 - 21	10	302	24 - 537
21 - 30	39	170	18 - 391	21 - 30	44	238	85 - 690
31 - 40	40	141	23 - 266	31 - 40	45	217	106 - 464
41 - 50	42	121	19 - 231	41 - 50	43	193	70 - 495
51 - 60	39	58	8 - 188	51 - 60	36	119	38 - 313
61 - 70	30	61	12 - 133	61 - 70	29	78	24 - 244
> 71	33	35	7 - 177	> 71	34	45	5 - 253

\* Actual median of samples.

\*\* Based on parametric model for 2.5% to 97.5% reference interval.

Note: Each laboratory should establish its own reference ranges to assure proper representation of specific populations. DHEA-S was measured in human serum, heparinized plasma, and EDTA plasma samples from apparently healthy male and female subjects using the Access DHEA-S assay.

## Characteristics

Sample Type/Size	Serum and plasma (heparin and EDTA)/10 µL
Time to First Result	30 minutes
Analytical Sensitivity	< 2 µg/dL
Calibrator Levels	Approximately 0, 20, 50, 200, 500 and 1000 µg/dL
Open Pack Stability	28 days
Calibration Stability	28 days
Imprecision, within-run	10% CV at ≥ 20 µg/dL

## Ordering Information

Access® DHEA-S - 2 packs of 50 tests/pack	A10826
Access® DHEA-S Calibrators - 6 vials of 2.0 mL/vial	A10827



Eastern Europe, Middle East, North Africa: Switzerland, Nyon (41) 22 994 0707. Australia, Gladesville (61) 2 9844 6000. Canada, Mississauga (1) 905 819 1234. China, Beijing (86) 10 6515 6028. Hong Kong (852) 2814 7431, 2814 0481. France, Villepinte (33) 1 49 90 90 00. Germany, Krefeld (49) 2151 33 35. Italy, Milan (39) 02 953921. Japan, Tokyo (81) 3 5404 8424. Latin America (1) (305) 380 4709. Mexico, Mexico City (525) 575 6805. Netherlands, Mijdrecht (31) 297 230630. Puerto Rico (787) 747 3335. Singapore (65) 6339 3633. South Africa/Sub-Saharan Africa, Johannesburg (27) 11 805 2014. Sweden, Bromma (46) 8 564 85 900. Switzerland, Nyon 0800 850 810. Taiwan, Taipei (886) 2 2378 3456. Turkey, Istanbul (90) 216 309 1900. UK, High Wycombe (44) 01494 441181. USA, Brea, CA (1) 800 352 3433, (1) 714 993 5321.