



Reporting Title: CAH 21-Hydroxylase Profile

Performing Location: Rochester

Ordering Guidance:

This profile provides the simultaneous determination of 17-hydroxyprogesterone, androstenedione, and cortisol. These steroids can also be ordered individually: OHPG / 17-Hydroxyprogesterone, Serum; ANST / Androstenedione, Serum; and CIMP / Cortisol, Mass Spectrometry, Serum.

Specimen Requirements:

Collection Container/Tube: Red top (serum gel/SST are not acceptable)

Specimen Volume: 0.6 mL

Submission Container/Tube: Plastic vial

Collection Instructions:

1. Morning (8 a.m.) and afternoon (4 p.m.) specimens are preferred.
2. Include time of collection.
3. Centrifuge and aliquot serum into a plastic vial.

Additional Information: If multiple specimens are collected, send separate order for each specimen.

Specimen Minimum Volume:

0.25 mL

Forms:

If not ordering electronically, complete, print, and send a Biochemical Genetics Test Request (T798) with the specimen.

Specimen Type	Temperature	Time	Special Container
Serum Red	Refrigerated (preferred)	14 days	
	Frozen	28 days	
	Ambient	7 days	

Ask at Order Entry (AOE) Questions:

Test ID	Question ID	Description	Type	Reportable
CORTI	COLT1	Collection Time in Military Time	Plain Text	No



Result Codes:

Result ID	Reporting Name	Type	Unit	LOINC®
30040	Cortisol, S Also used by tests: CORTI	Numeric	mcg/dL	2143-6
30070	AM Cortisol Also used by tests: CORTI	Numeric	mcg/dL	9813-7
30071	PM Cortisol Also used by tests: CORTI	Numeric	mcg/dL	9812-9
30041	Androstenedione, S Also used by tests: ANDRO	Numeric	ng/dL	1854-9
30042	17-Hydroxyprogesterone, S Also used by tests: H17	Numeric	ng/dL	1668-3

LOINC and CPT codes are provided by the performing laboratory.

Supplemental Report:

No

Components:

Test ID	Reporting Name	CPT Units	CPT Code	Always Performed	Orderable Separately
CORTI	Cortisol, S			Yes	Yes (order CINP)
ANDRO	Androstenedione, S			Yes	Yes (order ANST)
H17	17-Hydroxyprogesterone, S			Yes	Yes (order OHPG)

CPT Code Information:

82157
82533
83498



Reference Values:

CORTISOL

5-25 mcg/dL (a.m.)

2-14 mcg/dL (p.m.)

Pediatric reference ranges are the same as adults, as confirmed by peer-reviewed literature.

Petersen KE. ACTH in normal children and children with pituitary and adrenal diseases. I. Measurement in plasma by radioimmunoassay-basal values. Acta Paediatr Scand. 1981;70(3):341-345

ANDROSTENEDIONE

PEDIATRICS*

Premature infants

26-28 weeks, day 4: 92-282 ng/dL

31-35 weeks, day 4: 80-446 ng/dL

Full-term infants

1-7 days: 20-290 ng/dL

1 month-1 year: <69 ng/dL

Males*

Tanner stages	Age (Years)	Reference range (ng/dL)
Stage I (prepubertal)	<9.8	<51
Stage II	9.8-14.5	31-65
Stage III	10.7-15.4	50-100
Stage IV	11.8-16.2	48-140
Stage V	12.8-17.3	65-210

Females*

Tanner stages	Age (Years)	Reference range (ng/dL)
Stage I (prepubertal)	<9.2	<51
Stage II	9.2-13.7	42-100
Stage III	10.0-14.4	80-190
Stage IV	10.7-15.6	77-225
Stage V	11.8-18.6	80-240

*Soldin SJ, Brugnara C, Wong EC. Androstenedione. In: Pediatric Reference Ranges. 4th ed. AACCC Press; 2003:32-34

ADULTS

Males: 40-150 ng/dL

Females: 30-200 ng/dL

17-HYDROXYPROGESTERONE

Children

Preterm infants: Preterm infants may exceed 630 ng/dL, however, it is uncommon to see levels reach 1,000 ng/dL.

Term infants

0-28 days: <630 ng/dL



Levels fall from newborn (<630 ng/dL) to prepubertal gradually within 6 months.

Prepubertal males: <110 ng/dL

Prepubertal females: <100 ng/dL

Adults

Males: <220 ng/dL

Females

Follicular: <80 ng/dL

Luteal: <285 ng/dL

Postmenopausal: <51 ng/dL

Note: For pregnancy reference ranges, see: Soldin OP, Guo T, Weiderpass E, Tractenberg RE, Hilakivi-Clarke L, Soldin SJ. Steroid hormone levels in pregnancy and 1 year postpartum using isotope dilution tandem mass spectrometry. Fertil Steril. 2005;84(3):701-710