

ab284029 – Allopregnanolone ELISA Kit

For the quantitative measurement of Allopregnanolone in milk, plasma, saliva, serum and urine samples.

For research use only - not intended for diagnostic use.

For overview, typical data and additional information please visit:

<http://www.abcam.com/ab284029>

Storage and Stability: Store kit at +4°C immediately upon receipt, apart from the SP Conjugate and standard which should be stored at -20°C. Kit has a storage time of 1 year from receipt, providing components have not been reconstituted.

Materials Supplied

Item	Quantity	Storage Condition
100X Streptavidin-Peroxidase Conjugate	80 µL	-20°C
10X Diluent M Concentrate	20 mL	4°C
20X Wash Buffer Concentrate	30 mL	4°C
1X Biotinylated Allopregnanolone Steroid	1 vial	4°C
Chromogen Substrate	7ml	4°C
Allopregnanolone Microplate	96 wells	4°C
Allopregnanolone Standard	1 vial	-20°C
Sealing Tapes	3	N/A
Stop Solution	11ml	4°C

Materials Required, Not Supplied

These materials are not included in the kit, but will be required to successfully utilize this assay:

Microplate reader capable of measuring absorbance at 450 nm

Pipettes (1-20 µl, 20-200 µl, 200-1000 µl, and multiple channel)

Deionized or distilled reagent grade water

Reagents Preparation

Equilibrate all reagents to room temperature (18-25°C) prior to use. The kit contains enough reagents for 96 wells.

Prepare only as much reagent as is needed on the day of the experiment.

If crystals have formed in the concentrate, mix gently until the crystals have completely dissolved.

Δ Note: Concentration of the kit components are lot-specific, and the end user should always refer to the vial label.

10X Diluent M Concentrate: If crystals have formed in the concentrate, mix gently until the crystals have completely dissolved. Dilute the Diluent M Concentrate 10-fold with reagent grade water to produce a 1x solution. If crystals have formed in the concentrate, mix gently until the crystals have completely dissolved. Store for up to 30 days at 2-8°C.

1X Biotinylated Allopregnanolone Steroid: Reconstitute the Biotinylated Allopregnanolone Steroid with 5 ml Diluent M to generate a stock solution. Allow the vial to sit for 10 minutes with gentle agitation prior to use. Remaining stock solution should be stored at -20°C and used within 30 days. Avoid repeated freeze-thaw cycles.

20X Wash Buffer Concentrate: If crystals have formed in the concentrate, mix gently until the crystals have completely dissolved. Dilute the Wash Buffer Concentrate 20-fold with reagent grade water to produce a 1x solution.

100X Streptavidin-Peroxidase Conjugate: Spin down the SP Conjugate briefly and dilute the desired amount of the conjugate 100-fold with Diluent M to produce a 1x solution. The undiluted conjugate should be stored at -20°C.

Standard Preparation

Always prepare a fresh set of standards for every use.

Prepare serially diluted standards immediately prior to use.

Any remaining standard should be stored at -20°C after reconstitution and used within 5 days.

Allow the vial to sit for 10 minutes with gentle agitation prior to making dilutions.

The following section describes the preparation of a standard curve for duplicate measurements (recommended).

Reconstitution of the Allopregnanolone Standard vial to prepare a 320 pg/ml Stock Standard.

- First consult the Allopregnanolone Standard vial to determine the mass of protein in the vial.
- Calculate the appropriate volume of 1X Diluent M to add when resuspending the Allopregnanolone Standard vial to produce a 320 pg/ml Allopregnanolone Stock Standard by using the following equation:
 - o C_s = Starting mass of Allopregnanolone Standard (see vial label) (pg)
 - o C_f = The 320 pg/ml Allopregnanolone Stock Standard final required concentration
 - o V_D = Required volume of 1X Diluent M for reconstitution (µL)
 - o Calculate total required volume 1X Diluent M for resuspension:

$$(C_s / C_f) \times 1,000 = V_D$$

Example: Δ Note: This example is for demonstration purposes only. Please remember to check your standard vial for the actual amount of standard provided.

C_s = 416 pg of Allopregnanolone Standard in vial

C_f = 320 pg/mL Allopregnanolone Standard #1 final concentration

V_D = Required volume of 1X Diluent M for reconstitution (416 pg / 320 pg/mL) x 1,000 = 1,300 µL

- Reconstitute the Allopregnanolone Standard vial by adding the appropriate calculated amount V_D of 1X Diluent M to the vial to generate the 320 pg/mL Allopregnanolone Standard #1. Mix gently and thoroughly.
- Allow the reconstituted 320 pg/mL Allopregnanolone Standard #1 to sit for 10 minutes with gentle agitation prior to making subsequent dilutions.
- Label five tubes #2 – 6.
- Add 360 µL of 1X Diluent N to tube #2 – 6.
- To prepare Standard #2, add 120 µL of the Standard #1 into tube #2 and mix gently.
- To prepare Standard #3, add 120 µL of the Standard #2 into tube #3 and mix gently.
- Using the table below as a guide, prepare subsequent serial dilutions.
- 1X Diluent M serves as the zero standard (0 pg/mL).

Standard #	Volume to dilute (µL)	Volume 1X Diluent M (µL)	Allopregnanolone (pg/ml)
1	Reconstituted Allopregnanolone Standard		320
2	120 µL Standard #1	360 µL 1X Diluent M	80
3	120 µL Standard #2	360 µL 1X Diluent M	20
4	120 µL Standard #3	360 µL 1X Diluent M	5
5	120 µL Standard #4	360 µL 1X Diluent M	1.25
6	-	Diluent M	0.0

Sample Preparation

Plasma: Collect plasma using one-tenth volume of 0.1 M sodium citrate as an anticoagulant. Centrifuge samples at 3000 x g for 10 minutes and collect plasma. The undiluted samples can be stored at -20°C or below for up to 3 months. Avoid repeated freeze-thaw cycles.

Serum: Samples should be collected into a serum separator tube. After clot formation, centrifuge samples at 3000 x g for 10 minutes and remove serum. The undiluted samples can be stored at -20°C or below for up to 3 months. Avoid repeated freeze-thaw cycles.

Milk: Collect milk using sample tube. Centrifuge samples at 800 x g for 10 minutes. The undiluted samples can be stored at -20°C or below for up to 3 months. Avoid repeated freeze-thaw cycles.

Urine: Collect urine using sample pot. Centrifuge samples at 800 x g for 10 minutes. The undiluted samples can be stored at -20°C or below for up to 3 months. Avoid repeated freeze-thaw cycles.

Saliva: Collect saliva using sample tube. Centrifuge samples at 800 x g for 10 minutes. The undiluted samples can be stored at -20°C or below for up to 3 months. Avoid repeated freeze-thaw cycles.

Plate Preparation

The 96 well plate strips included with this kit are supplied ready to use. It is not necessary to rinse the plate prior to adding reagents.

Unused plate strips should be immediately returned to the foil pouch containing the desiccant pack, resealed and stored at 4°C.

For each assay performed, a minimum of two wells must be used as the zero control.

For statistical reasons, we recommend each sample should be assayed with a minimum of two replicates (duplicates).

Assay Procedure

Equilibrate all materials and prepared reagents to room temperature prior to use.

We recommend that you assay all standards, controls and samples in duplicate

1. Prepare all reagents, standard solutions, and samples as instructed. Bring all reagents to room temperature before use. The assay is performed at room temperature (20-25°C).
2. Remove excess microplate strips from the plate frame and return them immediately to the foil pouch with desiccants inside. Reseal the pouch securely to minimize exposure to water vapor and store in a vacuum desiccator.
3. Add 25 µl of Allopregnanolone Standard or sample to each well, and immediately add 25 µl of Biotinylated Allopregnanolone Steroid to each well (on top of the standard or sample). Gently tap plate to ensure thorough mixing. Break any bubbles that may have formed. Cover wells with a sealing tape and incubate for 2 hours. Start the timer after the last addition.
4. Wash the microplate manually or automatically using a microplate washer. Invert the plate and decant the contents; hit 4-5 times on absorbent material to completely remove the liquid. If washing manually, wash five times with 200 µl of Wash Buffer per well. Invert the plate each time and decant the contents; hit 4-5 times on absorbent material to completely remove the liquid. If using a microplate washer, wash six times with 300 µl of Wash Buffer per well; invert the plate and hit 4-5 times on absorbent material to completely remove the liquid.
5. Add 50 µl of SP Conjugate to each well. Gently tap plate to thoroughly coat the wells. Break any bubbles that may have formed. Cover wells with a sealing tape and incubate for 30 minutes. Turn on the microplate reader and set up the program in advance.
6. Wash the microplate as described above.
7. Add 50 µl of Chromogen Substrate to each well. Gently tap plate to thoroughly coat the wells. Break any bubbles that may have formed. Incubate in ambient light for 25 minutes or until the optimal blue colour density develops.
8. Add 50 µl of Stop Solution to each well. The colour will change from blue to yellow. Gently tap plate to ensure thorough mixing. Break any bubbles that may have formed.
9. Read the absorbance on a microplate reader at a wavelength of 450 nm immediately. If wavelength correction is available, subtract readings at 570 nm from those at 450 nm to correct optical imperfections. Otherwise, read the plate at 450 nm only. Please note that some unstable black particles may be generated at low concentration points after stopping the reaction for about 10 minutes, which will reduce the readings.

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Additional information

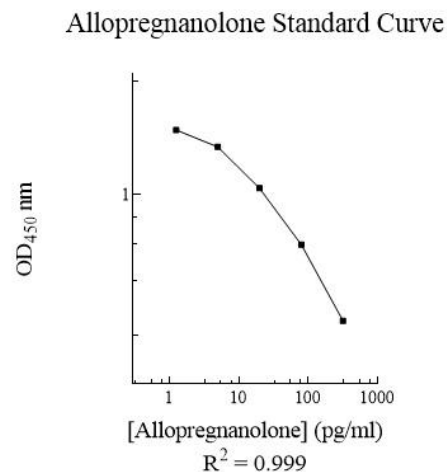
CALCULATION

1. Calculate the mean value of the duplicate or triplicate readings for each standard and sample.
2. To generate a standard curve, plot the graph using the standard concentrations on the x-axis and the corresponding mean 450 nm absorbance (OD) on the y-axis. The best fit line can be determined by regression analysis using log-log or four-parameter logistic curve fit.
3. Determine the unknown sample concentration from the Standard Curve and multiply the value by the dilution factor.

TYPICAL DATA

STANDARD CURVE

The curve is provided for illustration only. A standard curve should be generated each time the assay is performed.



PERFORMANCE CHARACTERISTICS

1. The minimum detectable dose of allopregnanolone as calculated by 2SD from the mean of a zero standard was established to be 1.1 pg/ml.
2. Intra-assay precision was determined by testing three plasma samples twenty times in one assay.
3. Inter-assay precision was determined by testing three plasma samples in twenty assays.

	Intra-Assay Precision	Inter-Assay Precision
CV (%)	6.8	10.5

RECOVERY

Standard Added Value	1.25 - 80 pg/ml
Recovery %	84 - 108%
Average Recovery %	96%

LINEARITY

- Serum and plasma samples were serially diluted to test for linearity.

Average Percentage of Expected Value (%)		
Sample Dilution	Human Plasma	Human Serum
10x	90%	90%
20x	100%	95%
40x	110%	110%

CROSS REACTIVITY

Steroid	Cross-Reactivity (%)
DHT	None
Progesterone	None
Cortexolone	None
Corticosterone	0.1%
Desoxycorticosterone	None
Cortisone	None
6-Keto-17β-Estradiol	3%
5-Androsten-3β-OL-7, 17-Dione	None
6-Keto-17α-Estradiol	None
3-Keto-5α, 16-Androstene	None
4-Androsten-17α-OL-3-One	0.3%
Aldosterone	0.2%
Ethynyl Estradiol	0.2%
6-Ketoestriol	None
6-Ketoestrone	0.1%
17β-Hydroxy-4-Androstene-3, 11-Dione	0.1%
19-Nortestosterone	0.1%
4-Pregnen-17, 20β-Diol-3-One	0.2%
11α-Hydroxytestosterone	1%
20α-Hydroxyprogesterone	0.1%
6β-Hydroxyprogesterone	0.2%
17-Hydroxyprogesterone	0.1%
Cortisol	0.1%
Testosterone	0.1%

Download our ELISA guide for technical hints, results, calculation, and troubleshooting tips:
www.abcam.com/protocols/the-complete-elisa-guide

Technical Support

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