

# CLIAS

Chemiluminescence  
Immunoassays

# DRG

Testosterone  
Progesterone  
Estradiol  
DHEA-S  
Cortisol  
CYFRA 21-I



# DRG

# DRG CLIAS

## Chemiluminescence Immunoassays

### Advantages of the DRG Chemiluminescence Immunoassays:

- Super sensitive
- Elongated standard curves
- Short incubation times
- Simple and reliable
- Safe and efficient
- Direct determination
- Long shelf life



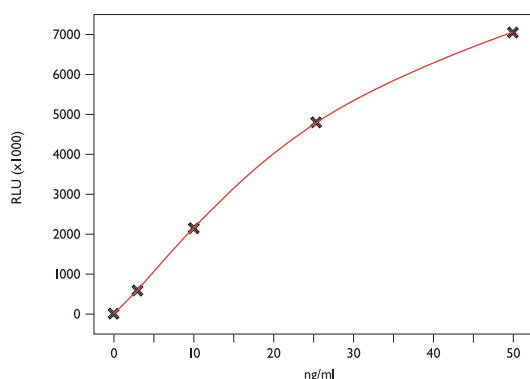
## Tumor Marker

### CYFRA 21-1 CLIA

CYFRA 21-1 is a fragment of cytokeratin 19. Although expressed in all body tissues its major occurrence is in the lung, particularly in lung cancer tissues. The major diagnostic importance of CYFRA 21-1 as a tumor marker is in differential diagnosis, prognosis, and aftercare of non-small-cell lung cancer (NSCLC) patients. Additionally, CYFRA 21-1 has been described as a tumor marker for the monitoring of bladder cancer.

Cat. No.:	CLA-4731
Incubation time:	30/10 min.
Test principle:	Quantitative/Sandwich assay
Standard Range:	0-50 ng/ml
Specimen Sample Volumen:	50 µl Serum Plasma
Sensitivity:	0.04 ng/ml

Typical Calibration Curve CYFRA 21-1



## Pituitary/Adrenal Function

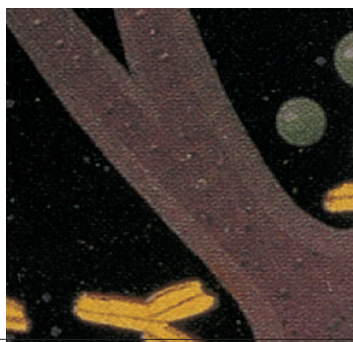
### Cortisol CLIA

Cortisol/Hydrocortisone, Compound F) is the main corticosteroid secreted in humans by the adrenal cortex. This steroid hormone has a molecular weight of 363.5 g/mol.

The main biological effects of cortisol are: promotion of gluconeogenesis, deposition of liver glycogen, increase in blood glucose concentration when the carbohydrate utilization is reduced, effect on fat metabolism and anti-inflammatory action.

Cortisol measurement is a powerful tool for the evaluation of suspected abnormalities in glucocorticoid production: Cushing's Syndrome (hypercortisolism), Addison's Disease or secondary adrenal insufficiency (hypocortisolism). In many cases, it is necessary to perform dynamic tests (suppression or stimulation) in order to localize the defect at one of the three main levels (i. e. adrenal, pituitary, hypothalamus).

Cat. No.:	CLA-4666
Incubation time:	30/10 min.
Test principle:	Quantitative/Competitive binding
Standard Range:	0-800 ng/ml
Specimen Sample Volumen:	20 µl Serum Plasma
Sensitivity:	0.48 ng/ml



# Gynecologic Endocrinology

## DHEA-S CLIA

Dehydroepiandrosterone (5-Androstene-3 $\beta$ -0L-17-one, Androstenedione, Dehydroisoandrosterone, Transdehydroandrosterone, DHEA) is a steroid hormone present in blood, mostly in its sulfate form (DHEA-S).

DHEA-S is a more specific product of the adrenals and measurements of this steroid are widely used in clinical practice. The clinical importance of plasma assays of DHEA-S is associated with the diagnosis of adrenal hyperplasia and differential diagnosis of hirsutism.

Cat. No.:	CLA-4667
Incubation time:	30/10 min.
Test principle:	Quantitative/Competitive binding
Standard Range:	0 - 10 $\mu$ g/ml
Specimen Sample Volumen:	10 $\mu$ l Serum Plasma
Sensitivity:	0.003 $\mu$ g/ml

## Testosterone CLIA

Testosterone (17 $\alpha$ -hydroxy-4-androstene-3-one) is a C19 steroid with an unsaturated bond between C-4 and C-5, a ketone group in C-3 and a hydroxyl group in the beta position at C-17.

Testosterone is responsible for the development of secondary male sex characteristics and its measurements are helpful in evaluating the hypogonadal states.

In women, high levels of testosterone are generally found in hirsutism and virilization, polycystic ovaries, ovarian tumors, adrenal tumors and adrenal hyperplasia.

In men, high levels of testosterone are associated to the hypothalamic pituitary unit diseases, testicular tumors, congenital adrenal hyperplasia and prostate cancer.

Low levels of testosterone can be found in patients with the following diseases: Hypopituitarism, Klinefelter's Syndrome, testicular feminization, Orchidectomy and Cryptorchidism, enzymatic defects and some autoimmune diseases.

Cat. No.:	CLA-4662
Incubation time:	35/10 min.
Test principle:	Quantitative/Competitive binding
Standard Range:	0 - 16 ng/ml
Specimen Sample Volumen:	20 $\mu$ l Serum Plasma
Sensitivity:	0.03 ng/ml

## Progesterone CLIA

Progesterone (pregn-4-ene-3, 20-dione) is a C21 steroid hormone containing a keto-group (at C-3) and a double bond between C-4 and C-5 ( $\delta^4$ ).

This steroid hormone is a female sex hormone which, in conjunction with estrogens, regulates the accessory organs during the menstrual cycle and it is particularly important in preparing the endometrium for the implantation of the blastocyte and in maintaining pregnancy.

Since the rise and fall of progesterone parallel the activity of ovarian follicle and corpus luteum, measurements of plasma progesterone are clinically used to confirm ovulation and normal function of the corpus luteum in non-pregnant women.

If ovulation does not occur, the corpus luteum is not formed and no cyclical rise of progesterone in plasma is observed. Abnormal progesterone secretion has been implicated in premenstrual tension, irregular shedding of endometrium, dysmenorrhoea, and luteal insufficiency.

During pregnancy progesterone is widely produced by placenta, and plasma levels arise steadily achieving values as high as 200 ng/mL at term.

Cat. No.:	CLA-4663
Incubation time:	35/10 min.
Test principle:	Quantitative/Competitive binding
Standard Range:	0 - 40 ng/ml
Specimen Sample Volumen:	25 $\mu$ l Serum Plasma
Sensitivity:	0.09 ng/ml

## Prolactin CLIA

Human prolactin is a single chain polypeptide hormone with a molecular weight of approximately 23,000 daltons. The release and synthesis of prolactin is under neuroendocrinal control, primarily through Prolactin Releasing Factor and Prolactin Inhibiting Factor.

The determination of prolactin concentration is helpful in diagnosing hypothalamic-pituitary disorders. Microadenomas (small pituitary tumors) may cause hyperprolactinemia, which is sometimes associated with male impotence. High prolactin levels are commonly associated with galactorrhea and amenorrhea.

Prolactin concentrations have been shown to be increased by estrogens, thyrotropin-releasing hormone (TRH), and several drugs affecting dopaminergic mechanisms. Prolactin levels are elevated in renal disease and hypothyroidism, and in some situations of stress, exercise, and hypoglycemia. Additionally, the release of prolactin is episodic and demonstrates diurnal variation. Mildly elevated prolactin concentrations should be evaluated taking these considerations into account. Prolactin concentrations may also be increased by drugs such as chlorpromazine and reserpine, and may be lowered by bromocryptine and L-dopa.

Cat. No.:	CLA-4729
Incubation time:	30/10 min.
Test principle:	Quantitative/Sandwich assay
Standard Range:	0 - 200 ng/ml
Specimen Sample Volumen:	25 $\mu$ l Serum Plasma
Sensitivity:	0.3 ng/ml

## Estradiol CLIA

Estradiol (1,3,5(10)-estratriene-3, 17 $\beta$ -diol; 17 $\beta$ -estradiol; E2) is a C18 steroid hormone with a phenolic A ring. This steroid hormone has a molecular weight of 272.4. It is the most potent natural Estrogen, produced mainly by the Graffian follicle of the female ovary and the placenta; and in smaller amounts by the adrenals and the male testes.

Serum Estradiol measurements are a valuable index in evaluating a variety of menstrual dysfunctions such as precocious or delayed puberty in girls and primary and secondary amenorrhea and menopause. Estradiol levels have been reported to be increased in patients with feminising syndromes, gynaecomastia and testicular tumors.

In cases of infertility, serum Estradiol measurements are useful for monitoring induction of ovulation following treatment with, for example, clomiphene citrate, LH-releasing hormone (LH-RH), or exogenous gonadotropins. During ovarian hyperstimulation for in vitro fertilisation (IVF), serum estradiol concentrations are usually monitored daily for optimal timing of human chorionic gonadotropin (hCG) administration and oocyte collection.

Cat. No.:	CLA-4664
Incubation time:	35/10 min.
Test principle:	Quantitative/Competitive binding
Standard Range:	0 - 1000 pg/ml
Specimen Sample Volumen:	20 $\mu$ l Serum Plasma
Sensitivity:	2.5 pg/ml

## 17 $\alpha$ -OH Progesterone CLIA

The steroid 17 $\alpha$ -Hydroxyprogesterone (17 $\alpha$ -OHP) is produced by both the adrenal cortex and gonads. Even though 17 $\alpha$ -OHP has relatively little progestational activity, it is of intense clinical interest because it is the immediate precursor to 11-deoxycortisol (Cpd-S). Because Cpd-S is produced by 21-hydroxylation of 17 $\alpha$ -OHP, measurement of 17 $\alpha$ -OHP is a useful indirect indicator of 21-hydroxylase activity. In congenital 21-hydroxylase deficiency, the most common variety of congenital adrenal hyperplasia (CAH), 17 $\alpha$ -OHP is secreted in abundant excess. It is moderately elevated in the 11 $\beta$ -hydroxylase deficiency as well. Measurement of 17 $\alpha$ -OHP is therefore valuable in the initial diagnosis of CAH.

Cat. No.:	CLA-4665
Incubation time:	30/10 min.
Test principle:	Quantitative/Competitive binding
Standard Range:	0 - 20 ng/ml
Specimen Sample Volumen:	20 $\mu$ l Serum Plasma
Sensitivity:	0.047 ng/ml

# DRG ELISAS

## Tumormarker

CYFRA 21-1  
CA 72-4  
CA 15-3  
CA 125  
CA 19-9  
CEA

## Gyn. Endocrinology

Estradiol  
Progesterone  
17 $\alpha$ -OH Progesterone  
DHEA-S  
Testosterone  
DHEA  
Estrone  
Androstendione  
DHT  
SHBG

## Prenatal Supervision

PAPP-A  
AFP  
Free Estriol  
HCG  
HPL  
PLGF

## Saliva Diagnostics

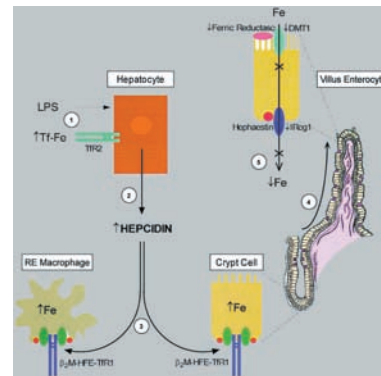
Cortisol  
Estradiol  
Testosterone  
DHEA  
Progesterone  
17 $\alpha$ -OH Progesterone  
Lactate

## Diabetes/Obesity

Insulin  
C-Peptid  
Proinsulin  
Leptin

## Iron Metabolism

Hepcidin  
Pro-Hepcidin



## ELISAS that perform

DRG develops and manufactures diagnostic ELISA test kits for use in clinical and research laboratories. The experience of our production and management team guarantees to provide high quality products, competitive prices and excellent customer service.

DRG works to DIN EN ISO 9001:2000, ISO 13485:2003 and ISO 13485:2003 under CMDCAS standard, certified by TÜV Rheinland Product Safety GmbH, an indication of our commitment to customer service, quality control and improved health care.

## DRG Diagnostics

DRG Instruments GmbH, founded in 1973 by Dr. Geacintov, subsidiary of DRG Intl. Inc., USA, is a diagnostics manufacturer of ELISAS.

The DRG Group operates through a network of DRG subsidiaries in Germany, Poland, Russia and the Czech Republic and through distributors worldwide.



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St. Petersburg



DRG Instruments GmbH, Germany  
Frauenbergstraße 18  
D-35039 Marburg  
Tel. +49 (0) 64 21/170 00,  
Fax +49 (0) 64 21/17 00 50  
Internet: [www.drg-diagnostics.de](http://www.drg-diagnostics.de)  
E-mail: [drg@drg-diagnostics.de](mailto:drg@drg-diagnostics.de)

Distributed by



DRG International Inc. USA  
1167 U.S. Highway 22 East  
Mountainside, N.J. 07092 USA  
Phone: +1 (908) 233-2079  
Fax +1 (908) 233-0758  
Internet: [www.drg-international.com](http://www.drg-international.com)  
E-mail: [corp@drg-international.com](mailto:corp@drg-international.com)