

# Cell Biology - Assays Kits

## Hormones - Peptides & Steroids Assays

Hormones are usually classified in peptide and steroids hormones. Both families are more or less specific activities, and use cell signal transduction pathways (section K5) to product their effects at the cell level.

Following are high quality EIA assays kits.

Interchim can also supply over 3000 hormones and steroids, as well custom synthesis and conjugation. Please inquire at [interbiotech@interchim.com](mailto:interbiotech@interchim.com).

See also Ab research area #14(Hormones & Steroids).

### Hormones AChE EIA

Following peptide hormones and steroid hormones assays are competitive ELISA sensitive kits based on AcetylCholine Esterase sensitive detection.

### Peptide Hormones

Description	Cat.#	Qty
Growth Hormone (rat) EIA Kit	HF6040	96 wells
Prolactin (rat) EIA lit	BH3850	96 wells

See also HRP based EIA kits, E223, E196

See also EIA kits  
#BQ6510 (Renin inh.)  
#BQ1620 (Angiogenin)  
#BP6110 (Angiotensin II)

### Technical tip

#### Peptide Hormones

Many amino acid and peptide hormones are elaborated by neural tissue, with ultimate impact on the entire system.

The secretion of hypothalamic, pituitary, and target tissue hormones is under tight regulatory control by a series of feedback and feed-forward loops. This complexity is illustrated by the dominant growth hormone (GH) that is controlled by the stimulatory substance growth hormone releasing hormone (GRH), and the inhibitory substance somatostatin (SS, GIH).

Pancreatic H.	Principal Source	Primary Activity
Growth Hormones : GH, PRL, hPL		PKC signal transduction pathway (not proved for GH)
Growth Hormone (GH)		promotes gluconeogenesis (hyperglycemic) and amino acid uptake, and is lipolytic (energy supply), all supporting cell growth. *
Prolactin (PRL)	Pituitary lactotropes	initiates and maintains lactation in mammary tissue that has been primed with estrogenic sex hormones. *
Human Placental Lactogen (hPL)		pas mis par impt *
Insulin, Glucagon		regulation of whole-body energy metabolism *
and Somatostatin		
Calcitonin (CT)	thyroid gland	elevates plasma Ca <sub>2+</sub> via PTH induction and reduces bone reabsorption by decreasing osteoclast binding to bone. Role in osteoporosis.
Parathyroid Hormone (PTH)	parathyroid	regulates Ca <sub>2+</sub> concentration in extracellular fluids. In the liver, kidney, and intestine, stimulates the production of 1,25-dihydroxycholecalciferol (calcitriol), which is responsible for Ca <sub>2+</sub> absorption in the intestine. *
Renin-Angiotensin		responsible system for regulation of blood pressure. *
Natriuretic Hormones (ANP, BNP, CNP)	Heart, Cardiac muscle, Heart, Brain	ANP : enhanced urinary excretion of sodium
Vasopressin (ADH), Oxytocin	posterior pituitary	vasopressin : main regulator of body fluid osmolarity. Oxytocin : contraction of mammary gland myoepithelial cells, stimulation of uterine smooth muscle contraction
Pro-Opiomelanocortins	pituitary gland	induces rapid secretion of ACTH, which stimulated the production steroid hormones (cortisol and corticosterone).
TSH (also called thyrotropin), T3, T4	Thyroid	Responsible for up-regulating general protein synthesis and inducing a state of positive nitrogen balance (1 development in embryos). *
Gonadotropins	Gonades	follicle stimulating hormone, FSH; luteinizing hormone, LH, and chorionic gonadotropin,CG stimulate the production of the steroid sex hormones estrogen, testosterone (T), and dihydrotestosterone (DHT). Human chorionic gonadotropin (hCG) (placental) has a role in embryo implantation. *
GastroIntestinal H. : GLP1, GIP, Gastrin, CCK, Secretin, VIP, Motilin, PP, Enkephalin, Substance P, Bompesin		Various roles linked to the digestion process *

### Technical tip

#### Steroids and Hormones

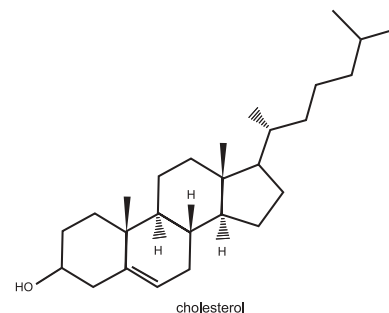
Steroids are built on lipidic carbon skeleton with four fused rings, which functional groups vary. Hundreds of distinct steroids have been identified in plants and animals. In human physiology and medicine, the most important steroids are cholesterol, the steroid hormones (Corticosteroids, and Sex hormones), their precursors (pregnenolone, a derivative of cholesterol) and their metabolites.

Cholesterol, a key component of animal cell membranes, plays a central role in many biochemical processes. Beside its well known association with cardiovascular disease (various lipoprotein cholesterol transport patterns in the blood, atherosclerosis)

**Corticosteroids**, that are produced in the adrenal cortex, are involved in a wide range of physiologic systems, including stress response, immune response and inflammation regulation. Essentially, glucocorticoids such as **cortisol** control carbohydrate, fat and protein metabolism and are anti-inflammatory by preventing phospholipid release, decreasing eosinophil action and a number of other mechanisms.

Mineralocorticoids such as **aldosterone** control blood electrolyte and water levels, mainly by promoting sodium retention in the kidney.

**Sex hormones**, include 1/ **Oestrogens** that function as the primary female sex hormones, 2/ **Progesterones**, involved in the female menstrual cycle, pregnancy (supports gestation) and embryogenesis of humans and other species, and 3/ **Androgens**, such as DHEA, Androsterone), which stimulates or controls the development and maintenance of masculine characteristics, as well anabolism.



See HRP based EIA kits, in section E223, E196.

Description	Cat.#	Qty
Estradiol EIA Kit	921456	96 Wells
	921457	480 Wells
Estriol EIA Kit	S00914	96 wells
	S00913	480 wells
Progesterone EIA Kit	921465	96 wells
Testosterone EIA Kit	992424	96 wells
11-keto Testosterone EIA Kit	S00953	96 wells

# Cell Biology - Assays Kits

## Hormones - Peptides & Steroids Assays

### Hormones HRP EIA

These kits are designed to quantitate/demonstrate the presence of various hormones, proteins, growth factors, and tumor markers, etc. in human serum. Typically, affinity purified monoclonal antibodies are coated on the plates. Human serum samples are incubated with the coated plates and subsequently detected with another monoclonal/polyclonal antibodies coupled with peroxidase. Since color (blue or yellow) is produced at the end of the assay, these tests also allow a visual detection (confirmation) of positives and negatives. Color (yellow) is read using an ELISA reader (450 nm) for quantitative presentation of data. These kits are for research use only (a Research Notice Use Form may be required).

Name (alphabetical)	**Sample Size (Sensitivity)	Assay range (Assay time)	Cat.#
Follicle Stimulating Hormone(FSH)	50 ul (1 mIU/L)	0-100 mIU/l (90 min)	BP7820
HCG, Free b-HCG subunits	25 ul (0.5 mIU/L)	0-100 mIU/l (40 min)	BP7900
Human Chorionic Gonadot. (HCG)	25 ul (3 mIU/L)	0-200 mIU/ml (40 min)	BP9160
Insulin	25 ul (1.5 uU/ml)	0-200 uU/ml (45 min)	BP8110
C-Peptide	25 ul (0.3 ng/ml)	0-20 ng/ml (45 min)	BP8120
Luteinizing Hormone (LH)	25 ul (2 mIU/mL)	0-200 mIU/ml (40 min)	BP8130
Prolactin(PRL)	25 ul (2 ng/mL)	0-100 ng/ml (40 min)	BP8140
Thyroid Stimulating Hormone (TSH)	50 ul (0.5 mIU/L)	0-50 mIU/l (90 min)	BP8150
Total T3	50 ul (20 ng/dl)	0-1000 ng/dl (90 min)	P32213
Total Thyroxine (Total T4)	25 ul (0.5 µg/dl)	0-24 ug/dl(90 min)	P32203

Also suitable for Mouse and rat T3  
Also suitable for Mouse and rat T4

\*\* : due to high sensitivity and the assay range,  
samples for most kits may have to be diluted.