

Endocrine System: The Hypothalamic–Pituitary Axis

1. The anterior pituitary is composed of _____ tissue. Name the six classic hormones whose functions are well known.
 - a.
 - b.
 - c.
 - d.
 - e.
 - f.
2. TRH, GNRH, CRH etc. are known as _____ hypothalamic hormones which regulate the function of the _____ pituitary. These hormones are released into capillary beds and carried directly to the pituitary by the _____ located in the _____.
3. _____ and _____, the posterior pituitary hormones are synthesized in the _____ and _____ nuclei of the hypothalamus. They are stored in the axon terminals located in the _____ pituitary. Similar to neurotransmitters, an _____ in the neuron causes their release.
4. In negative feedback, the target hormone feeds back to alter the release of the anterior or hypothalamic hormones thus (increasing or decreasing) its own release.
5. Give an example of a hormone that has negative feedback mainly to the anterior pituitary. _____
Give an example of a hormone that has negative feedback to both the anterior pituitary and the ventral hypothalamus. _____
6. Prolactin is unique in that the main ventral hypothalamic hormone regulating its secretion (_____), inhibits its release.
_____ (hormone) increases prolactin release. Very high levels of this hormone during pregnancy actually block the effect of prolactin on milk production.
7. _____ hormones are necessary for the release of _____ hormone. This is an example of modulation of a hormone by a target hormone of another series.
8. Suckling of an infant causes milk letdown by stimulating what hormone? _____
Changes in osmolarity detected by chemically sensitive neurons in the hypothalamus will alter what hormone's level? _____
9. Cortisol release is synchronized by the light/dark cycle and has a 24 hour pattern of secretion known as a _____ rhythm. Levels are highest at what part of the day? _____

10. Besides controlling levels of T_3 and T_4 , TSH also promotes _____ of the thyroid gland. T_3 and T_4 are carried in the blood stream bound to _____ because they are (hydrophilic or lipophilic).
11. T_3 and T_4 enter the target cells by _____ and bind to receptors located _____. T_3 and T_4 are synthesized from _____ and _____.
12. Which of the following would be symptoms of hypothyroidism also known as _____?
- | | | |
|--------------------|----|--------------------------|
| lethargy | or | hyperexcitability |
| high BMR | or | low BMR |
| high heart rate or | | low to normal heart rate |
| feeling cold | or | sweating |
| weight loss | or | weight gain |
13. Lack of dietary iodine would cause (primary or secondary) hypothyroidism and the patient would probably get an iodine-deficient _____.
14. Graves' disease is the most common cause of primary _____. The body secretes _____, which mimics the action of TSH and thus may cause a _____ as well as high levels of thyroid hormones.