

## TOPIC: PLACENTATION

### The Placenta

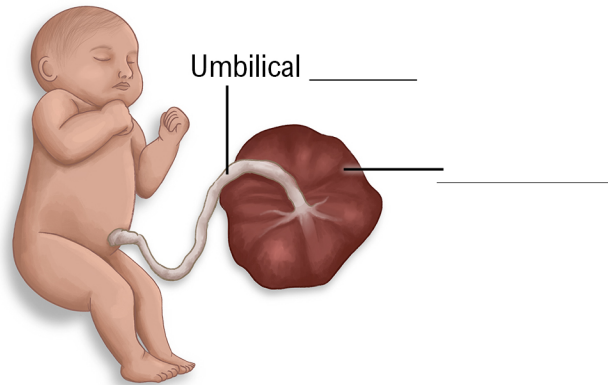
◆ **Placenta:** Site of \_\_\_\_\_ exchange, and nutrient/waste transfer between mother and conceptus.

▸ Temporary \_\_\_\_\_ that is delivered after birth.

▸ Produces hormones to support pregnancy:

- |                               |                                  |
|-------------------------------|----------------------------------|
| 1. _____                      | ] Production begins immediately  |
| 2. Estrogens and Progesterone |                                  |
| 3. Human placental lactogen   | ] Production emerges more slowly |
| 4. _____                      |                                  |

◆ **Placentation:** The process of forming the placenta. Begins during implantation, continues through fetal period.



### EXAMPLE

Which of the following statements best describes the role of the placenta during pregnancy?

- a) The placenta encapsulates the developing fetus, holding it in place within the uterine cavity.
- b) The placenta facilitates the exchange of nutrients and gases between the mother and conceptus.
- c) The placenta is a permanent organ the facilitates the exchange of nutrients and gases between the mother and conceptus.
- d) The placenta facilitates the exchange of nutrients and gases between the mother and conceptus during the first and second trimesters, and then slowly dissolves within the uterine cavity.

### PRACTICE

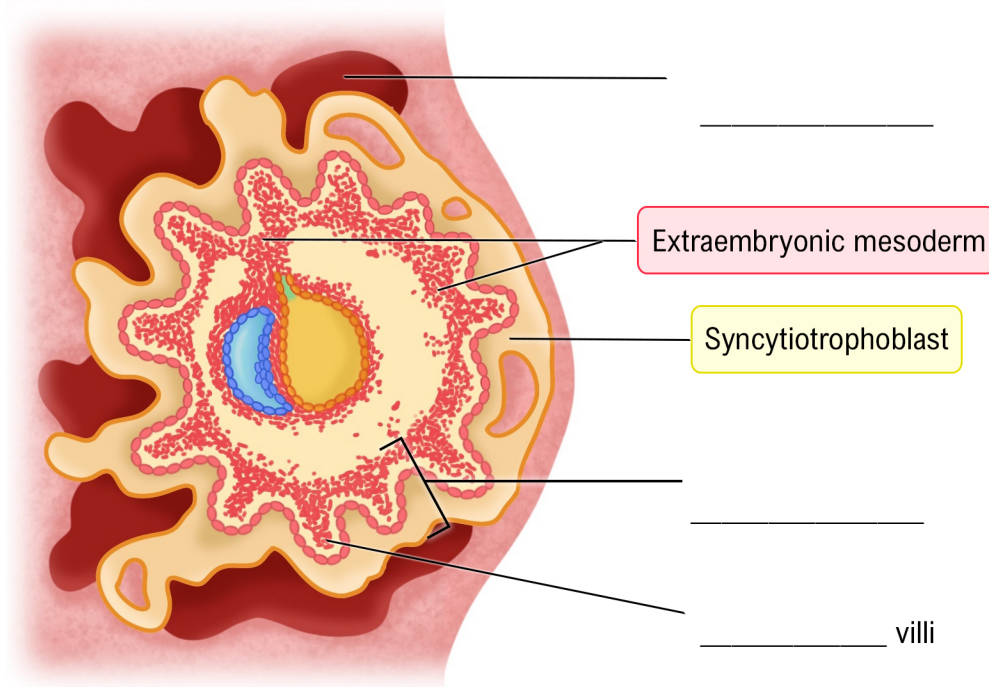
Which of the following hormones is **NOT** produced by the placenta at any point during pregnancy?

- |                                  |               |
|----------------------------------|---------------|
| a) Human chorionic gonadotropin. | c) Melatonin. |
| b) Relaxin.                      | d) Estrogen.  |

## TOPIC: PLACENTATION

### Placentation – Weeks 2-3

- ◆ Implantation creates pools of maternal \_\_\_\_\_ in the endometrium called lacunae or intervillous spaces.
- ◆ Cells from embryonic disc proliferate and create a layer of **extraembryonic mesoderm**.
- ◆ The extraembryonic mesoderm and **syncytiotrophoblast** become the \_\_\_\_\_:
  - ▶ **Chorion:** Pre-placental structure that surrounds conceptus; becomes \_\_\_\_\_ layer of embryonic sac.
    - Develops projections called chorionic \_\_\_\_\_; these enter the lacunae.



### EXAMPLE

Which structure is primarily responsible for nutrient and gas exchange between the mother and fetus?

- a) The chorion.
- b) The chorionic villi.
- c) The amniotic sac.
- d) The yolk sac.

### PRACTICE

The chorion is made up of the:

- a) Syncytiotrophoblast and lacunae.
- b) Ectoderm and syncytiotrophoblast.
- c) Extraembryonic mesoderm and syncytiotrophoblast.
- d) Extraembryonic endoderm and syncytiotrophoblast.

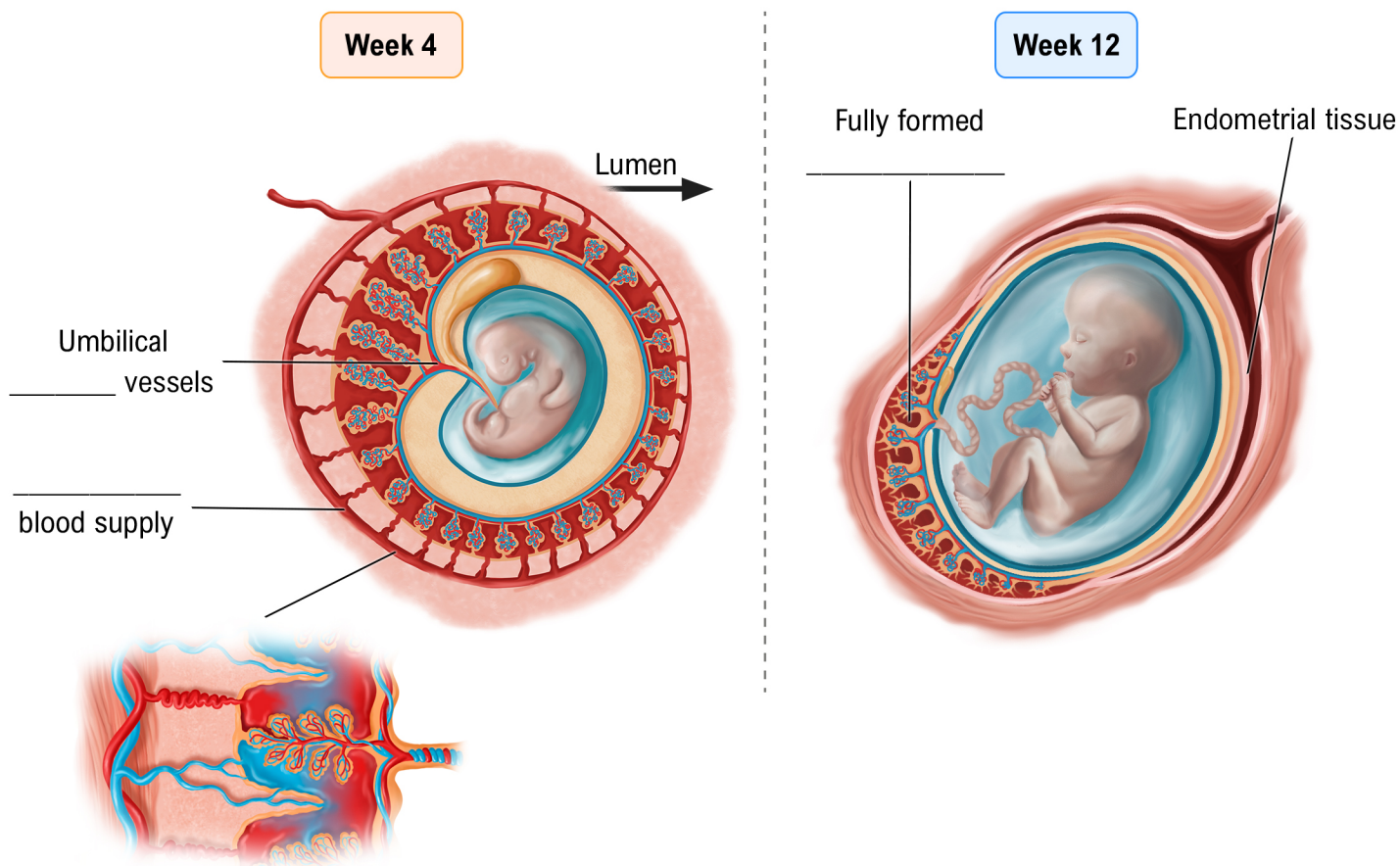
## TOPIC: PLACENTATION

### Placentation – Weeks 4-12

◆ **Week 4:** Chorionic villi develop and extend blood vessels that connect to the \_\_\_\_\_ arteries and vein.

◆ **Weeks 5-12:**

- The endometrium \_\_\_\_\_ the embryo (away from lumen) contributes to the placenta.
- The endometrium towards the \_\_\_\_\_ goes on to surround the embryo and amniotic sac.



### EXAMPLE

The placenta should be **fully** functional as the fetus's sole source of nutrient, gas, and waste exchange by:

- a) 6 weeks.
- b) 7 weeks.
- c) 8 weeks.
- d) 12 weeks.