

SNS COLLEGE OF PHARMACY AND HEALTH SCIENCES

Affiliated To The Tamil Nadu Dr. MGR Medical University, Chennai
Approved by Pharmacy Council of India, New Delhi. Coimbatore -641035

COURSE NAME: HUMAN ANATOMY & PHYSIOLOGY

(BP301 T)

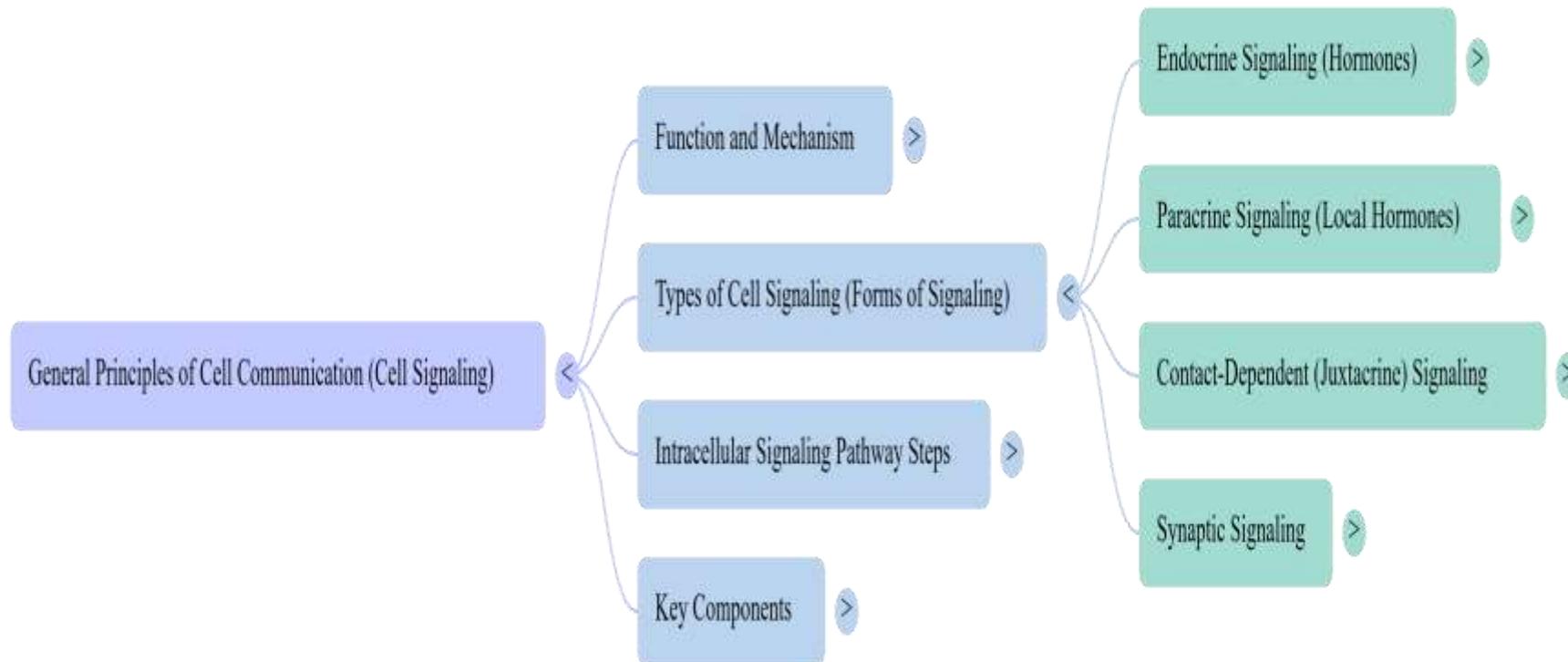
YEAR : I SEM/I YEAR

TOPIC 9 : FORMS OF INTERCELLULAR SIGNALING

DESIGN THINKING IN INTERCELLULAR SIGNALING

- 1. Empathize:** Deeply understand the learner's challenges, needs, and experiences in grasping intercellular signaling.
- 2. Define:** Reframe the problem based on insights, establishing clear context like the need for simplified signaling explanations.
- 3. Ideate:** Brainstorm diverse teaching methods, including diagrams and interactive models.
- 4. Prototype:** Simulate educational tools to enhance understanding of signaling forms.

MIND MAP

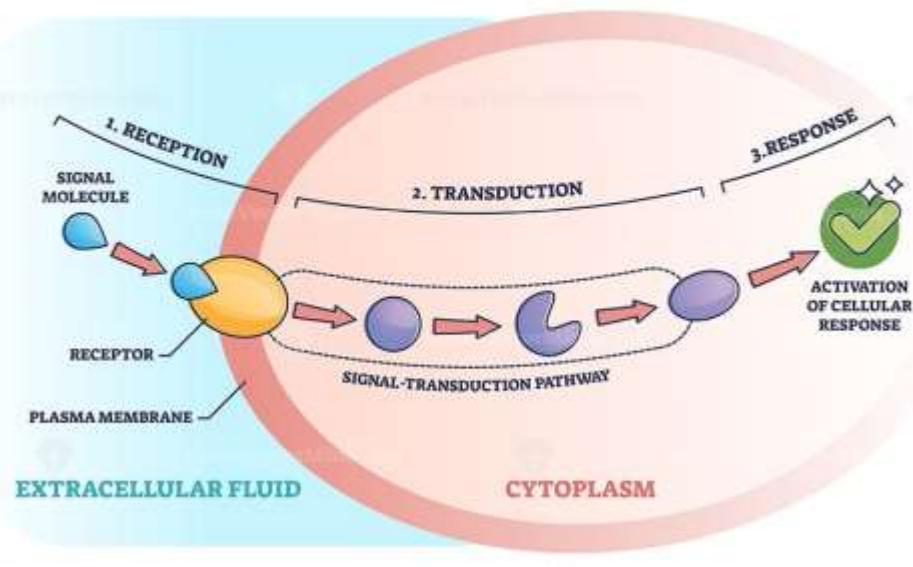


CELL SIGNALING

EMPATHIZE

DEFINE

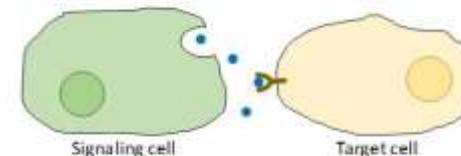
CELL SIGNALING



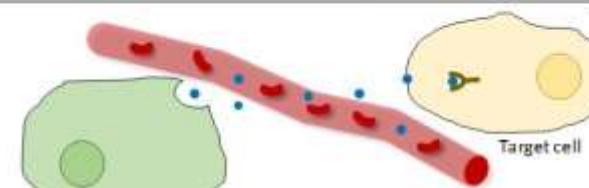
Autocrine signaling
a cell targets itself



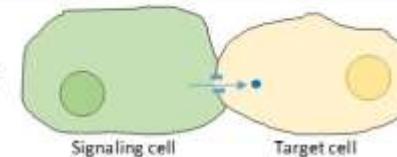
Paracrine signaling
a cell signals a nearby cell



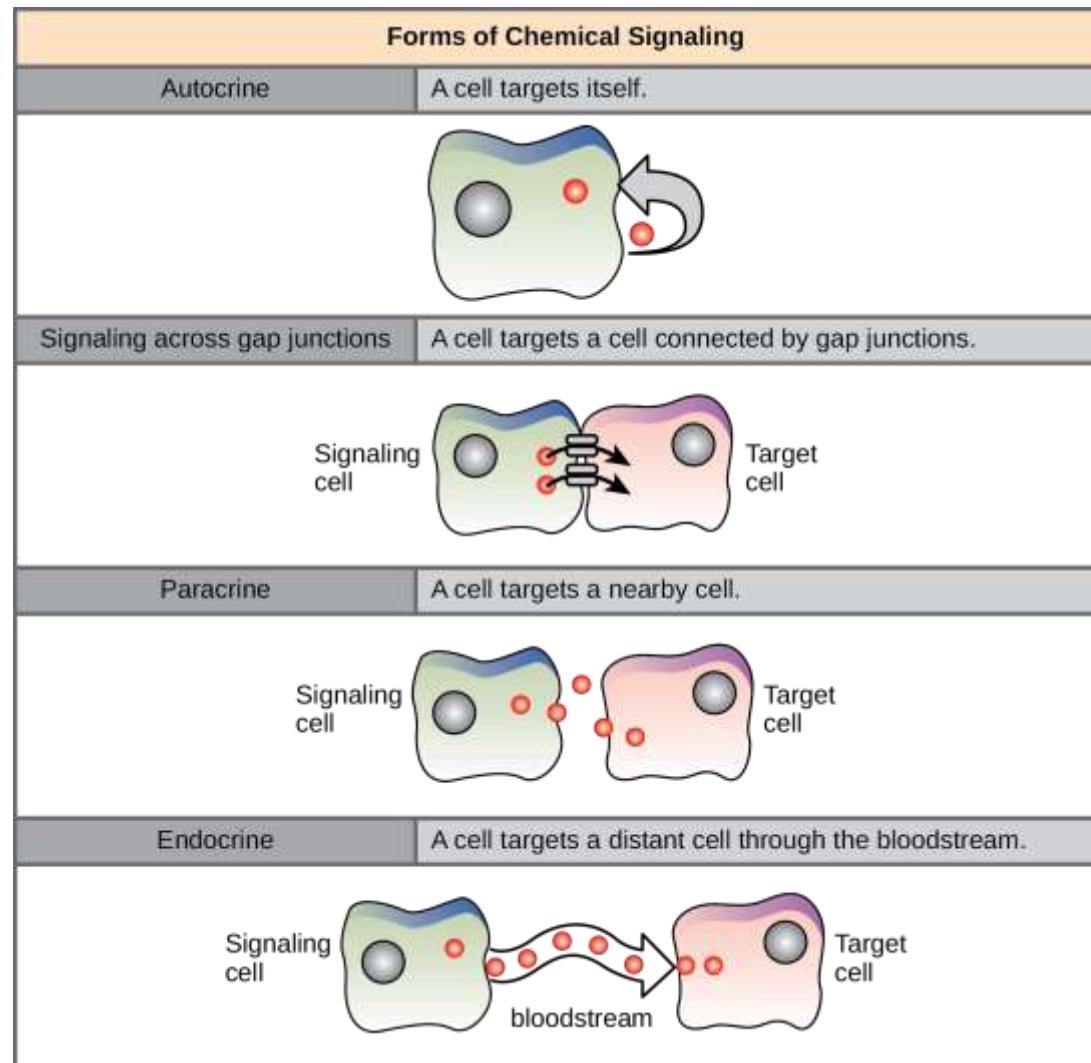
Endocrine signaling
a cell targets a distant cell through the bloodstream



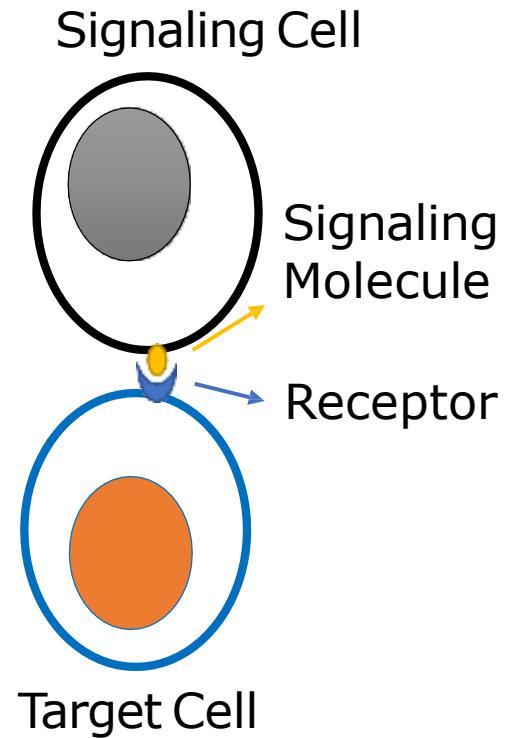
Direct signaling
a cell targets a neighboring cell through a gap junction



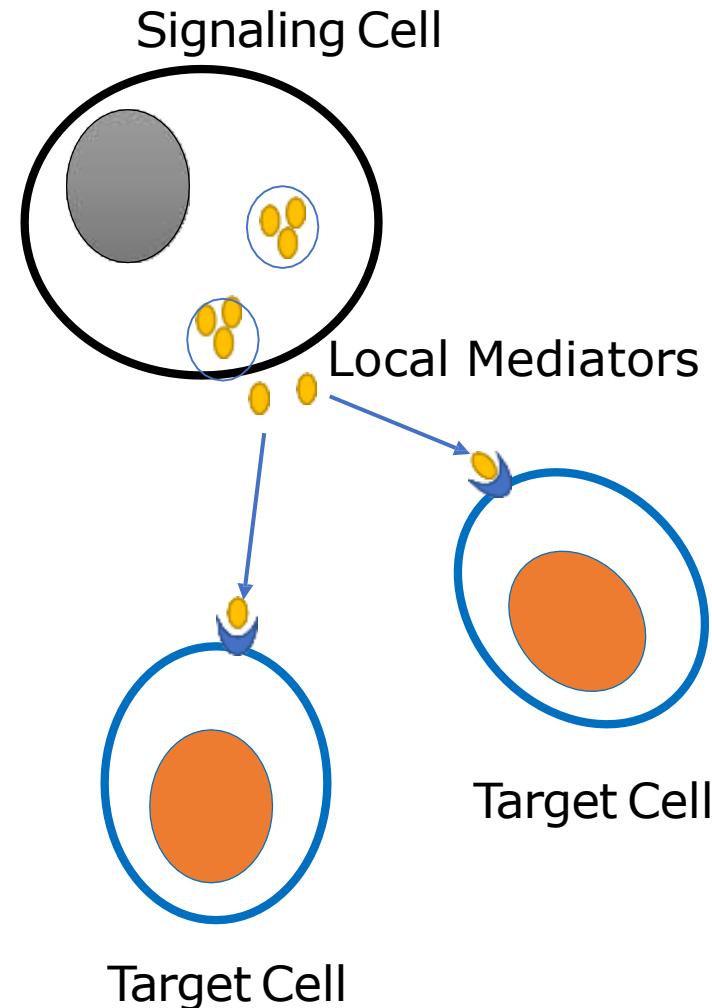
CELL SIGNALING



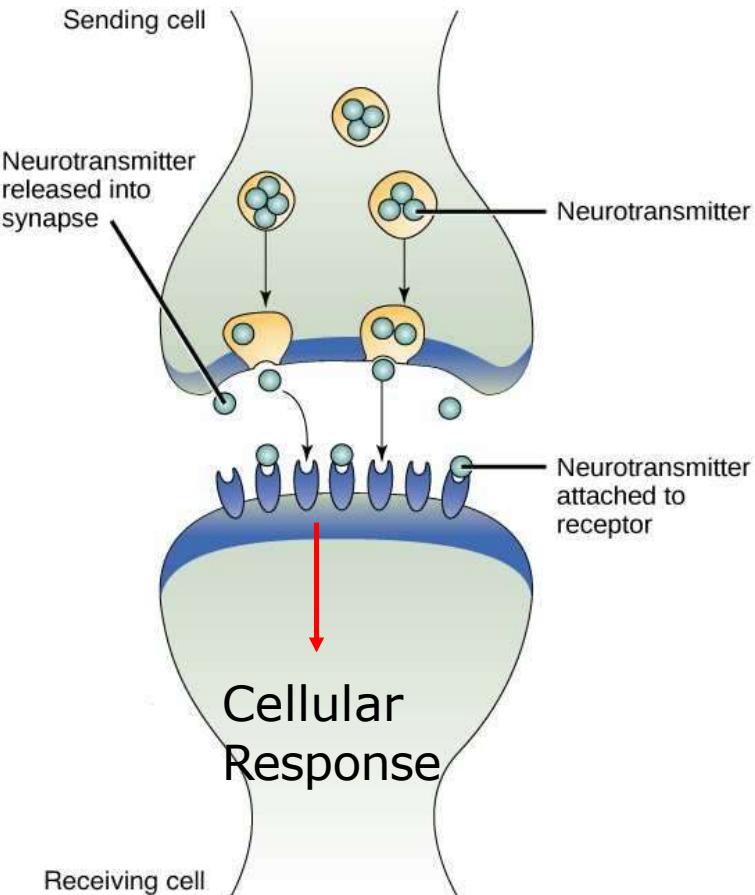
A) CONTACT DEPENDENT



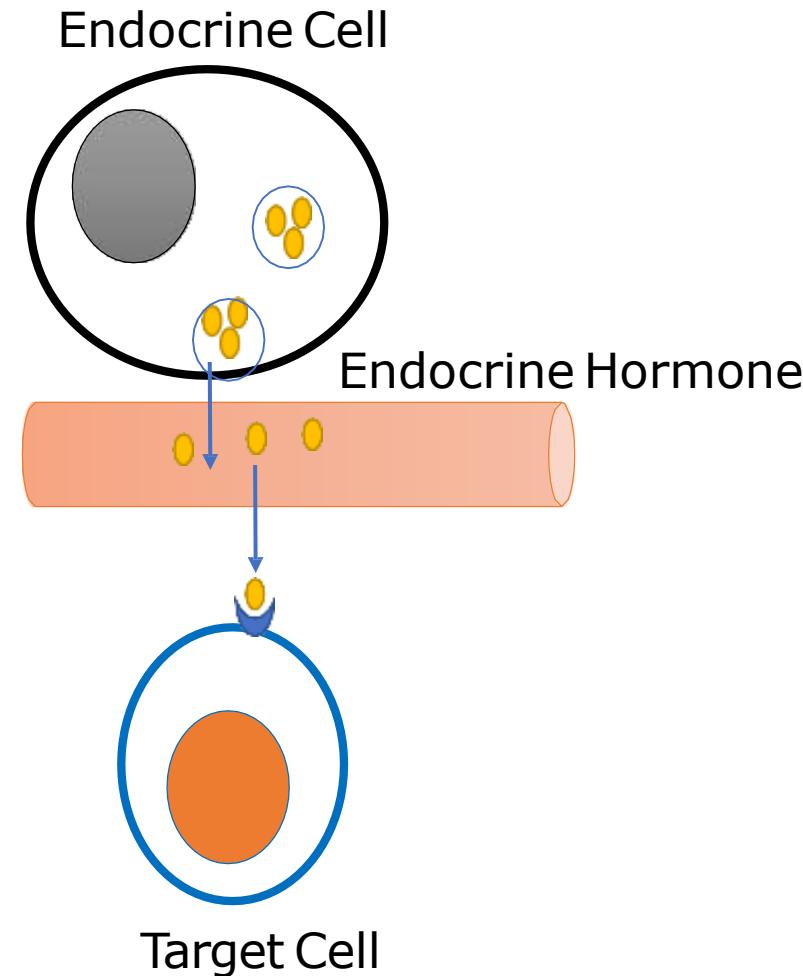
B) PARACRINE SIGNALING



C) SYNAPTIC SIGNALING



D) ENDOCRINE SIGNALING



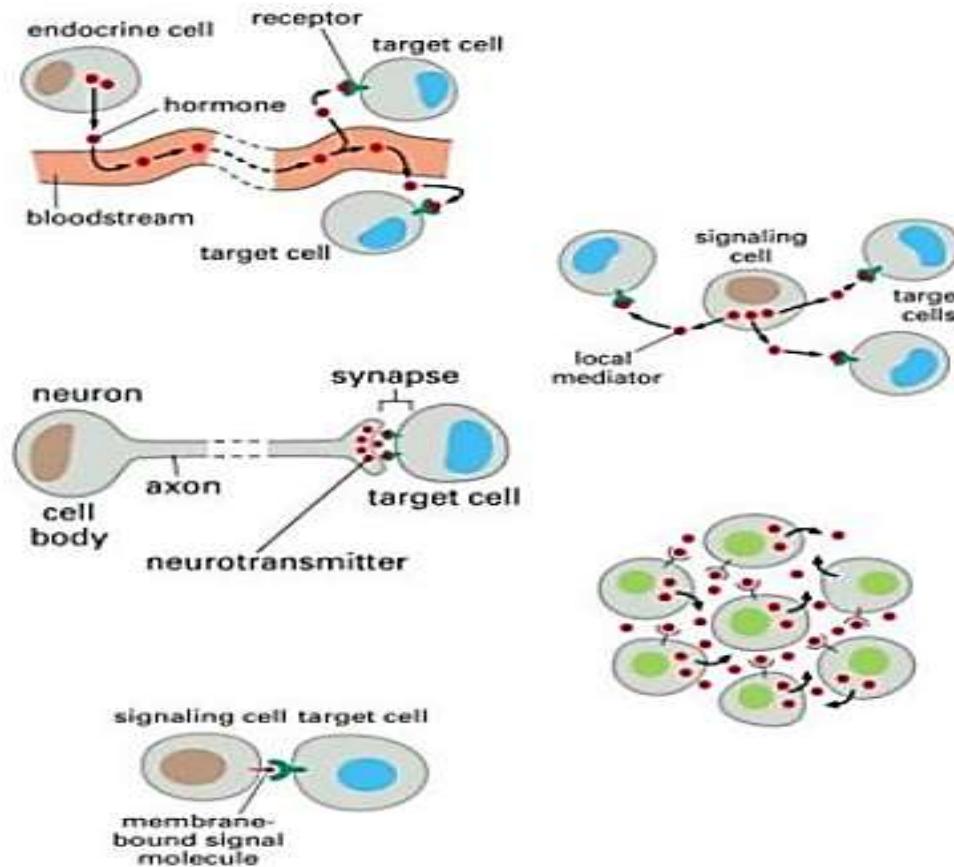
SUMMARY

The various types of **intercellular signaling pathways**, which describe how cells communicate. It introduces five specific mechanisms:

- **contact-dependent signaling**, which requires direct cell contact and is vital for the immune system and development;
- **paracrine signaling**, which involves chemical messengers diffusing over short distances to neighboring cells;
- **synaptic signaling**, a specialized form of paracrine communication utilizing synapses between nerve cells.
- **endocrine signaling**, where hormones travel through the body to reach distant target cells for slow, long-lasting effects,

CLASS ASSESSMENT

FIND THE TYPE OF CELL SIGNALLING?



REFERENCE

- ✓ Essentials of Medical Physiology, K. Sembulingam & P. Sembulingam (Jaypee Brothers Medical Publishers)
- ✓ A Textbook of Human Anatomy and Physiology-I, SIA Publishers
- ✓ Human Anatomy & Physiology Gerard J. Tortora & Bryan H. Derrickson (Wiley)
- ✓ Ross and wilson anatomy and physiology in health and illness, Anne Waugh &Allison Grant.
- ✓ Tortora GJ, Derrickson B: Principles of Anatomy and Physiology, 15th Edition, Wiley, 2017.
- ✓ Marieb EN, Hoehn K: Human Anatomy & Physiology, 11th Edition, Pearson, 2019.

