

## MG30750 | SPERMATOGENESIS PROCESS



This detailed model shows the evolution of spermatogenesis, from spermatid to mature spermatozoon, magnified approximately 10,000 times its natural size. It presents the stages of the process in a didactic manner, with numbering and hand-painting, mounted on a polymer base for better visualization.

### **Applications:**

This model is indicated for the study of anatomy in schools and universities, ideal for assisting in training, patient explanations, and medical and scientific information purposes. It is also used for the study of the reproductive system, as a resource in training for surgical dissection in clinics and classrooms, and for patient education and procedure demonstration.

### **Technical Advantages:**

- \* Detailed representation of the spermatogenesis process.
- \* Numbering and hand-painting of structures.
- \* High-precision natural molding.
- \* Manufactured from stable synthetic material and resin approved in toxicological tests.



- \* High-fidelity replicas.
- \* Includes an information card with related structures.
- \* Model mounted on a polymer base with support.

### **3D Technology and Augmented Reality:**

Our anatomical models offer a visual complement through information cards that allow visualization of 3D models in augmented reality (AR). This interactive platform assists the learning process, allowing comparative analysis of anatomical structures and offering resources for continuing education in anatomy, physiology, and pathophysiology.

### **Technical Specifications:**

- \* Scale: 10,000x natural size.
- \* Material: Synthetic resin.

### **Main Structures:**

**Golgi Complex:** Cell organelle responsible for the processing and packaging of proteins and lipids, crucial in the formation of the spermatozoon's acrosome.

**Acrosomal Granule:** Vesicles containing hydrolytic enzymes, such as hyaluronidase and acrosin, essential for the penetration of the spermatozoon into the ovum during fertilization.

**Mitochondria:** Organelle responsible for the production of energy (ATP) in the cell, vital for the motility of the spermatozoon through the tail.

**Nucleus:** Contains the genetic material (DNA) of the spermatozoon, which will be combined with that of the ovum to form the zygote.

**Spermatid:** Immature stage of the spermatozoon, which still needs to undergo transformations to become a mature and functional spermatozoon.

**Acrosome:** Vesicle located in the head of the spermatozoon that contains enzymes essential for penetration into the zona pellucida of the ovum during fertilization.

**Neck:** Region that connects the head of the spermatozoon to the tail, contains centrioles and mitochondria.

**Body:** Segment of the spermatozoon tail rich in mitochondria, providing the energy necessary for movement.

**Tail:** Flagellum that allows the movement of the spermatozoon towards the ovum.



**Spermatozoon:** Mature male reproductive cell, responsible for the fertilization of the ovum.

Other structures can be verified directly on the physical piece or the interactive 3D model.

**About Anatomical Models:**

They are developed with resin replication technology, offering an alternative for teaching and research. They present the main morphological characteristics with excellent cost-benefit, good resistance, hand-painting, and numbering for precise identification of structures.

**List of all visible structures:**

- Golgi complex
- Acrosome granule
- Mitochondria
- Nucleus
- Spermatid
- Acrosome
- Neck
- Body
- Tail
- Tail
- Mitochondria
- Body
- Neck
- Spermatozoon
- Head
- Nucleus
- Acrosome