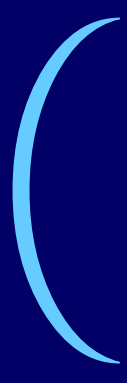


Ear

四川大学组织学与胚胎学教研室

Function: equilibrium & hearing



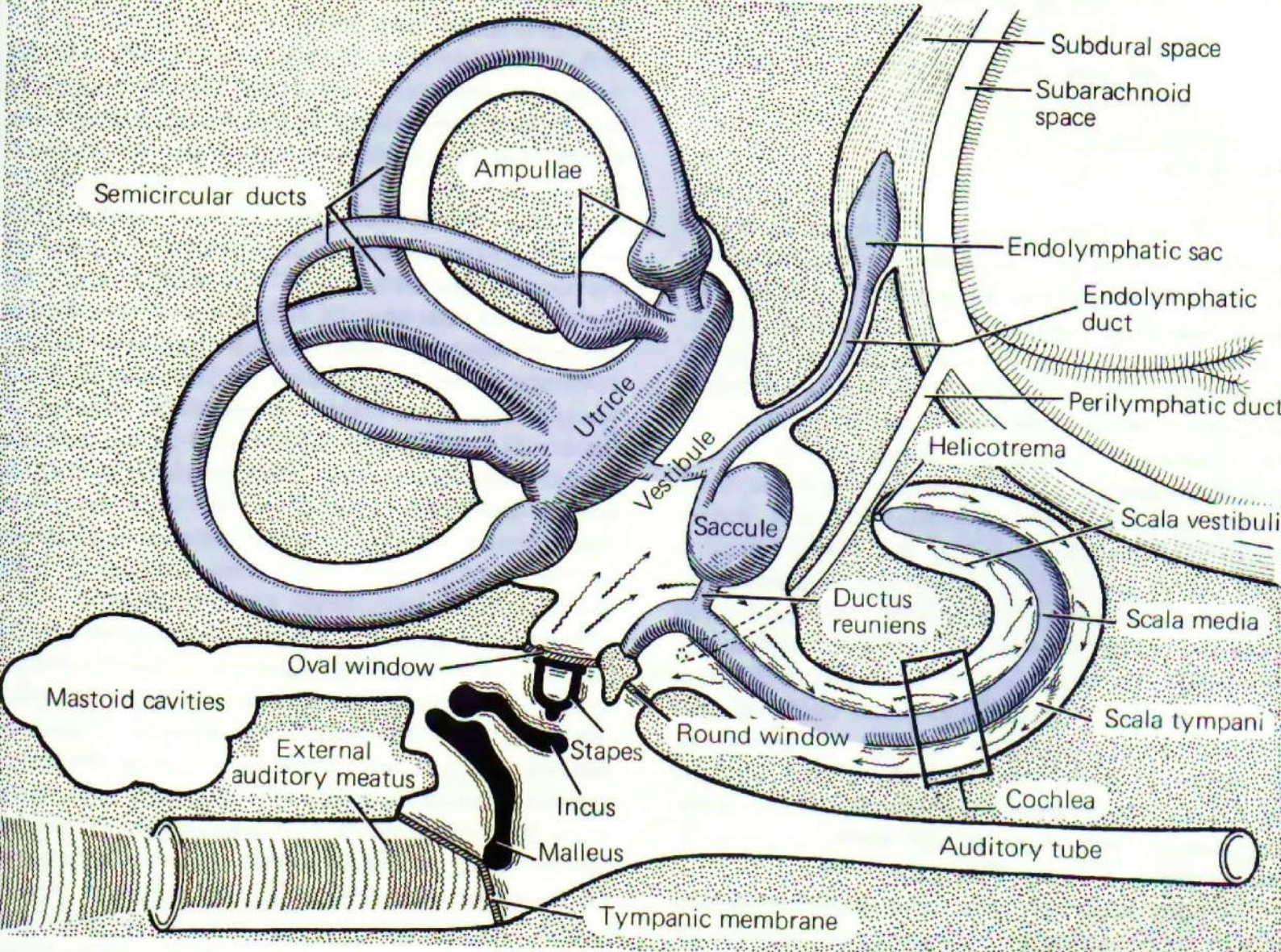
external ear
middle ear
inner ear

❖ **external ear**

auricle

external auditory meatus

tympanic membrane



❖ middle ear

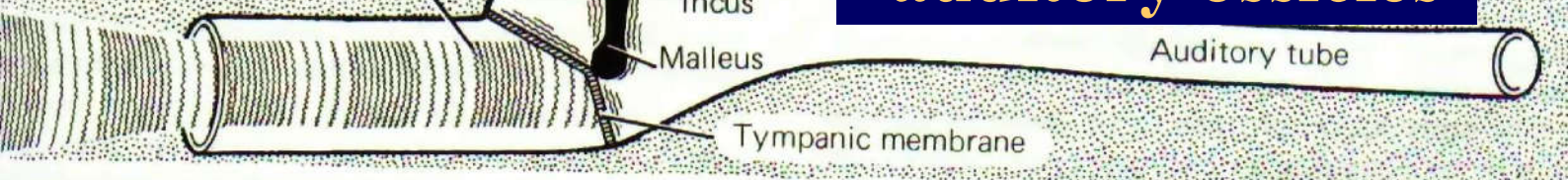
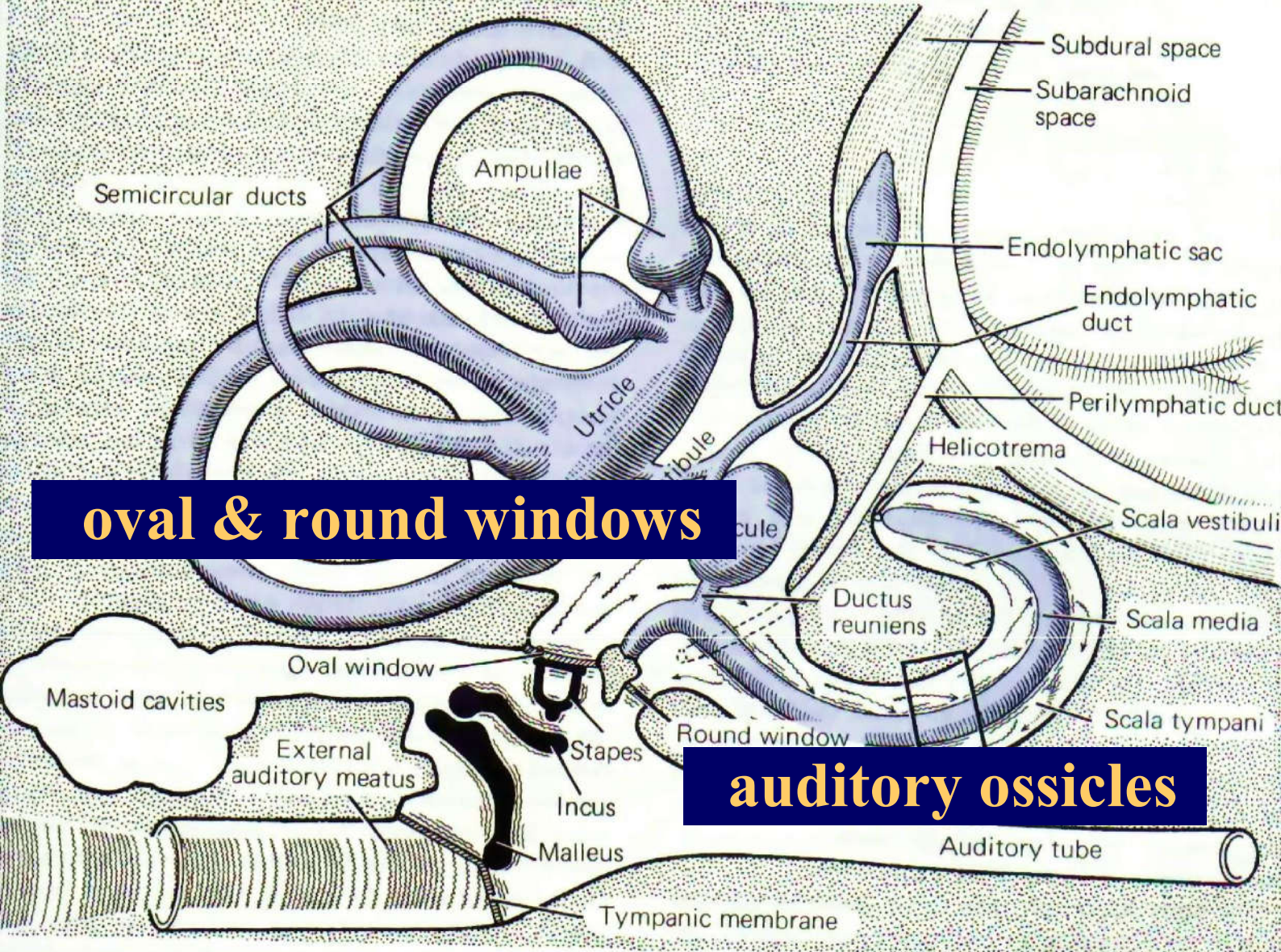
- tympanic cavity

- auditory tube

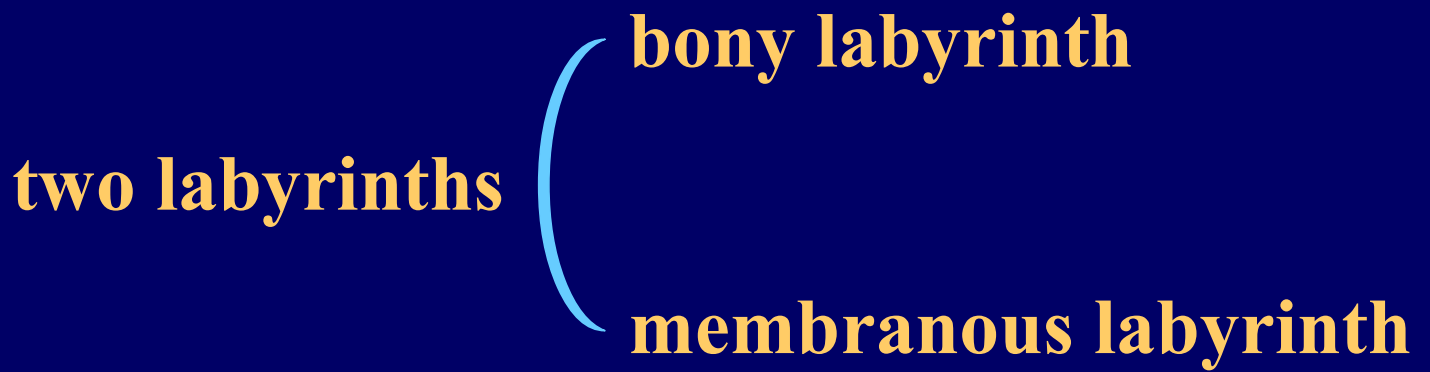
- oval & round windows

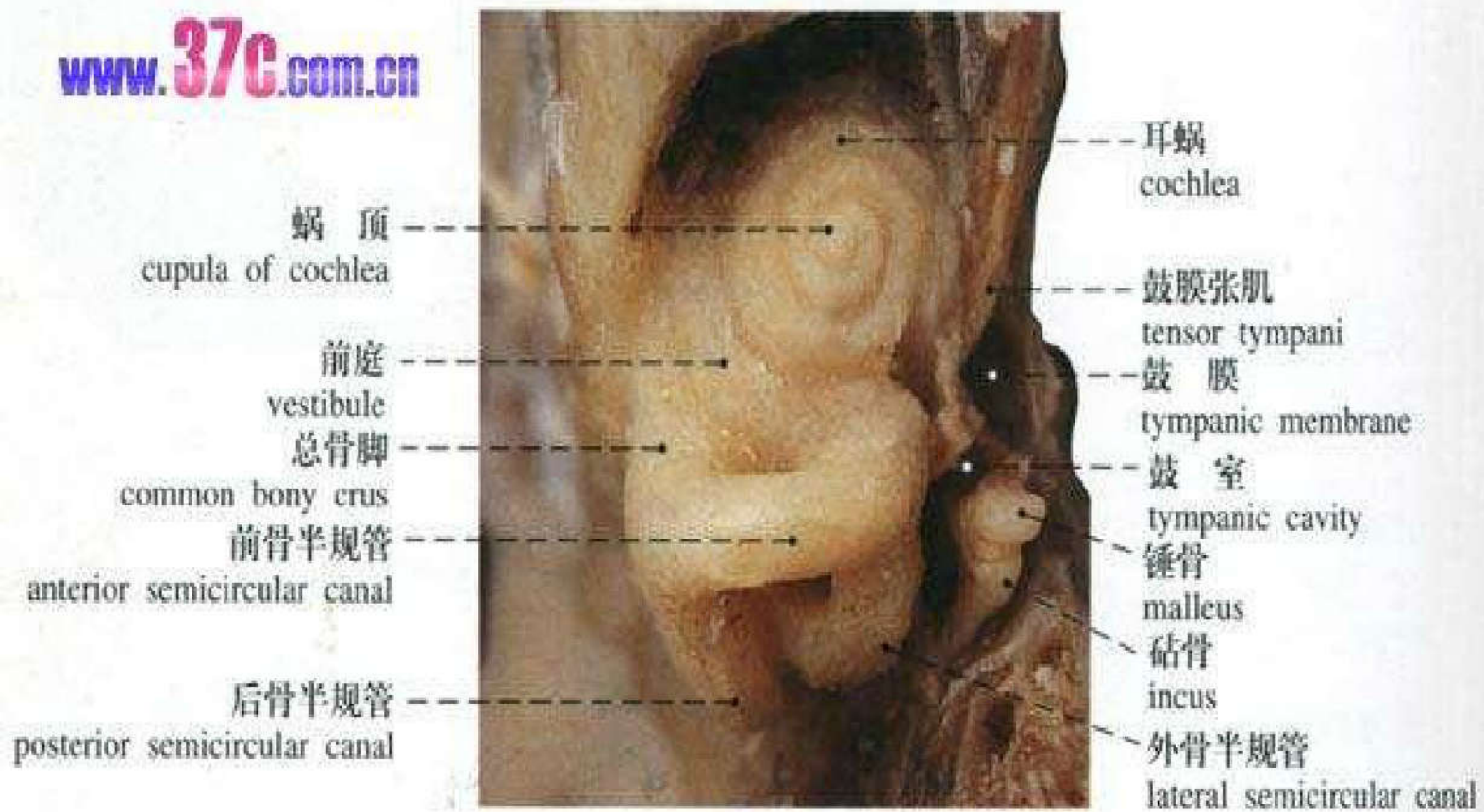
- auditory ossicles:

malleus 錘骨 , incus 砧骨 & stapes 鐙骨



❖ **internal ear**





petrous portion of the temporal bone

■ bony labyrinth

总骨脚
common bony crus

前庭
vestibule

耳蜗
cochlea

外骨壶腹
lateral bony ampulla

蜗顶
cupula of cochlea

外骨半规管
lateral semicircular canal

前庭窗
vestibular window

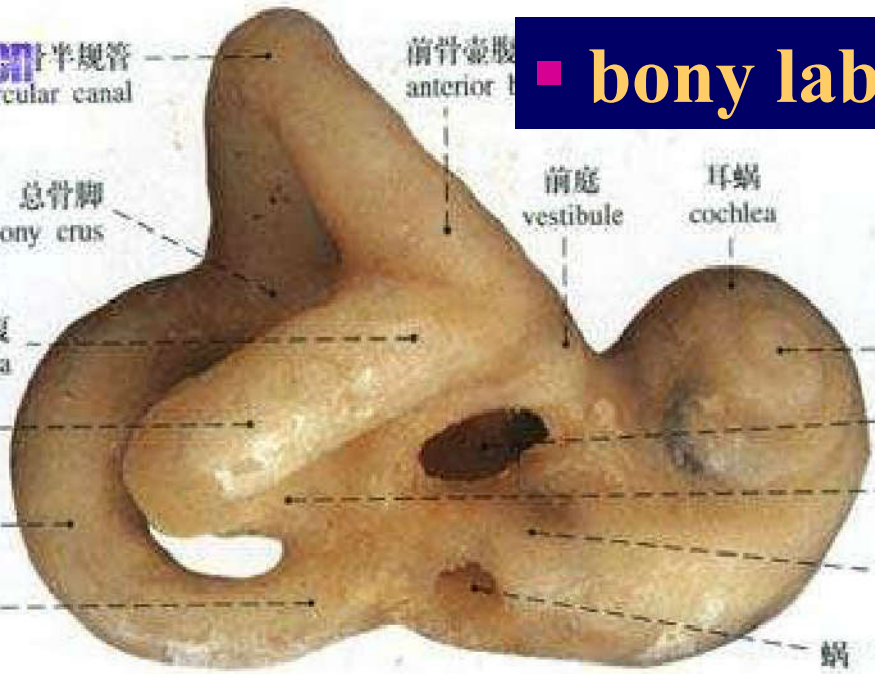
后骨半规管
posterior semicircular canal

单骨脚
simple bony crus

后骨壶腹
posterior bony ampulla

岬
promontory

蜗窗
fenestra cochleae



* vestibule

* semicircular canals

* cochlea

bony labyrinth is filled with perilymph

- **membranous labyrinth**

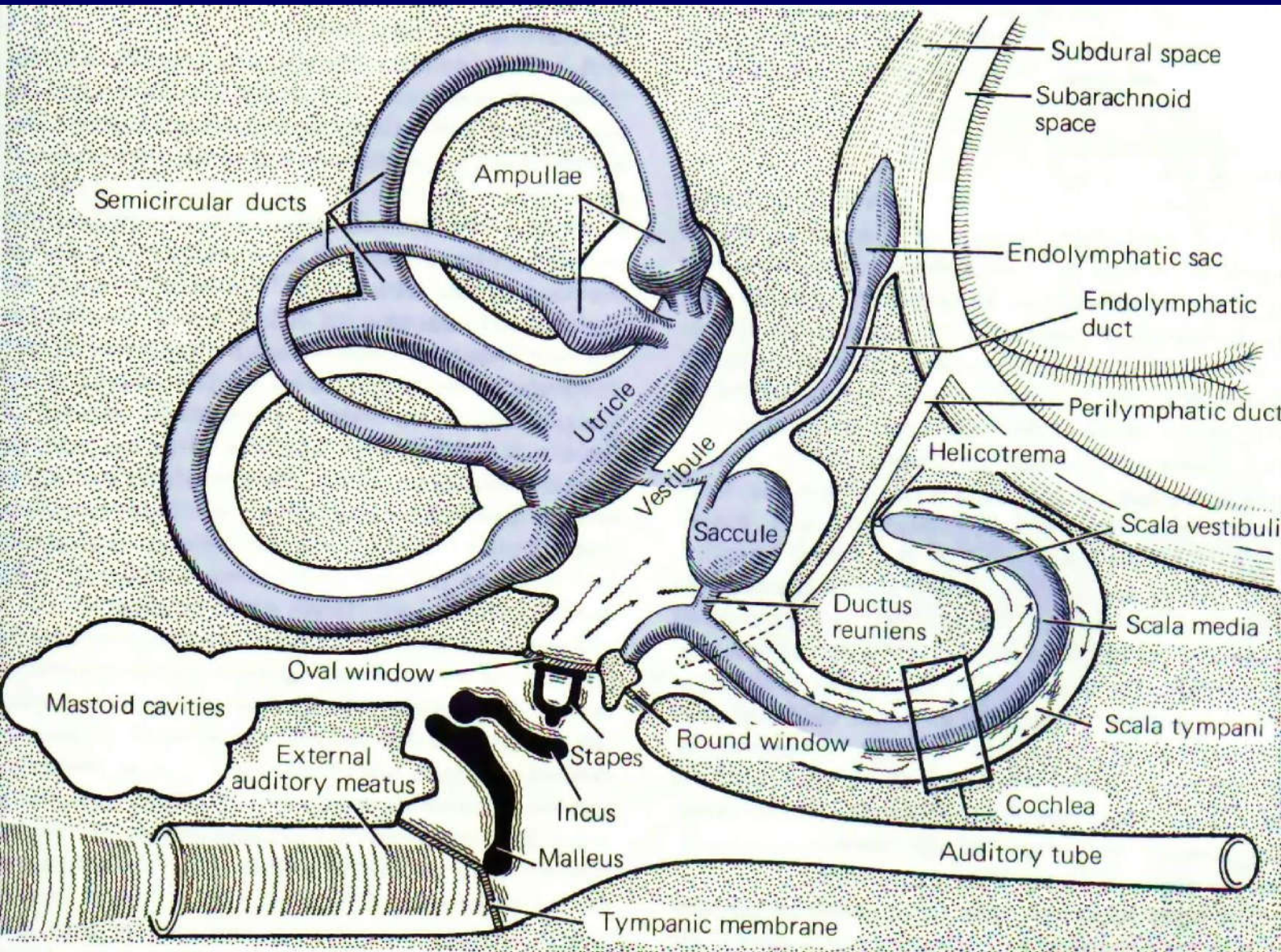
continuous membranous duct and sac

sacculle, utricle (vestibule)

semicircular ducts and ampullae

(semicircular canals)

cochlear duct



- **maculae 斑 & cristae ampullares 壶腹嵴**

function:

- * **perceiving movement and orientation
in space**
- * **maintaining equilibrium or balance**

structure:

thickened wall and two types of cells

— receptor cell and supporting cell

macula

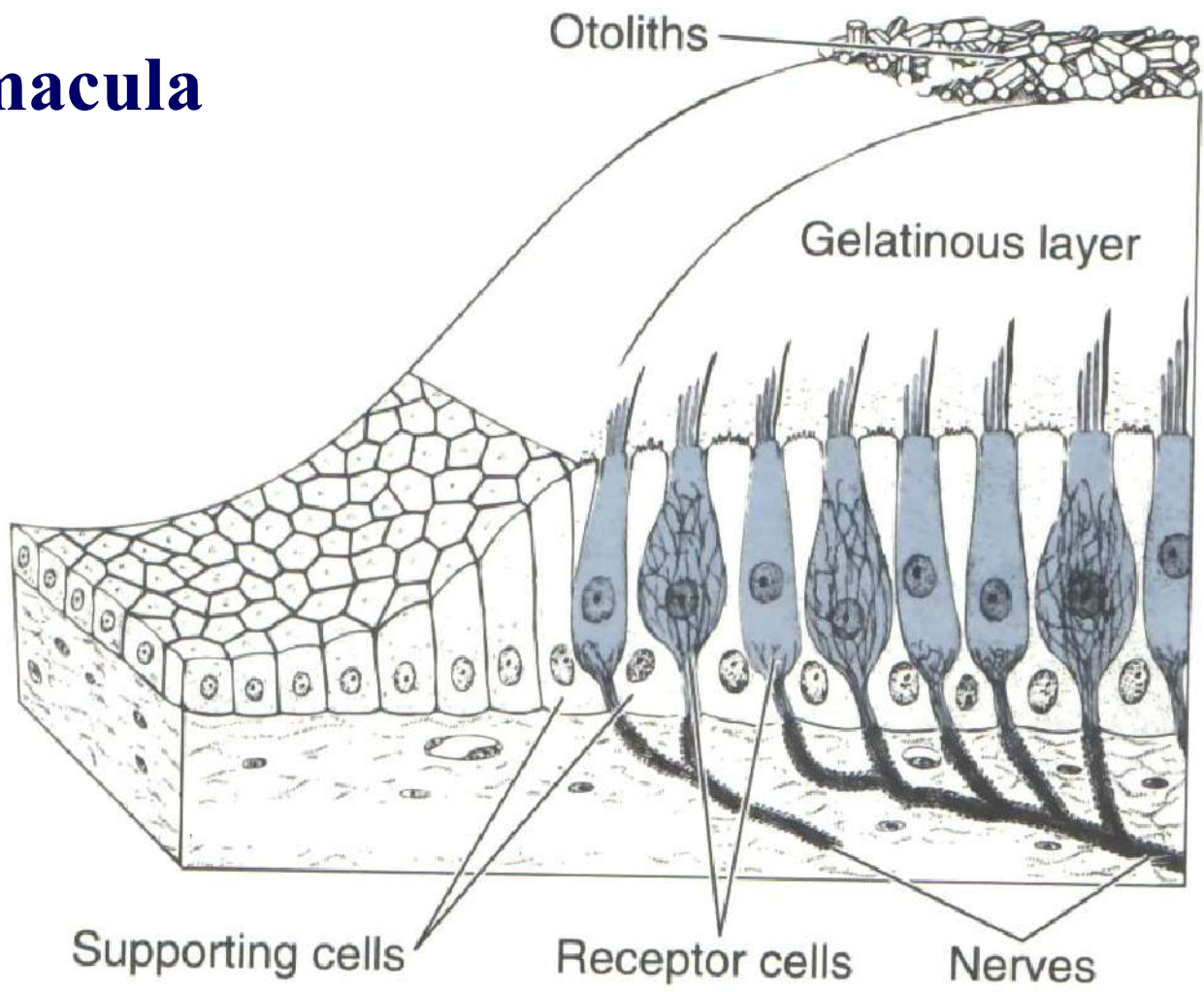
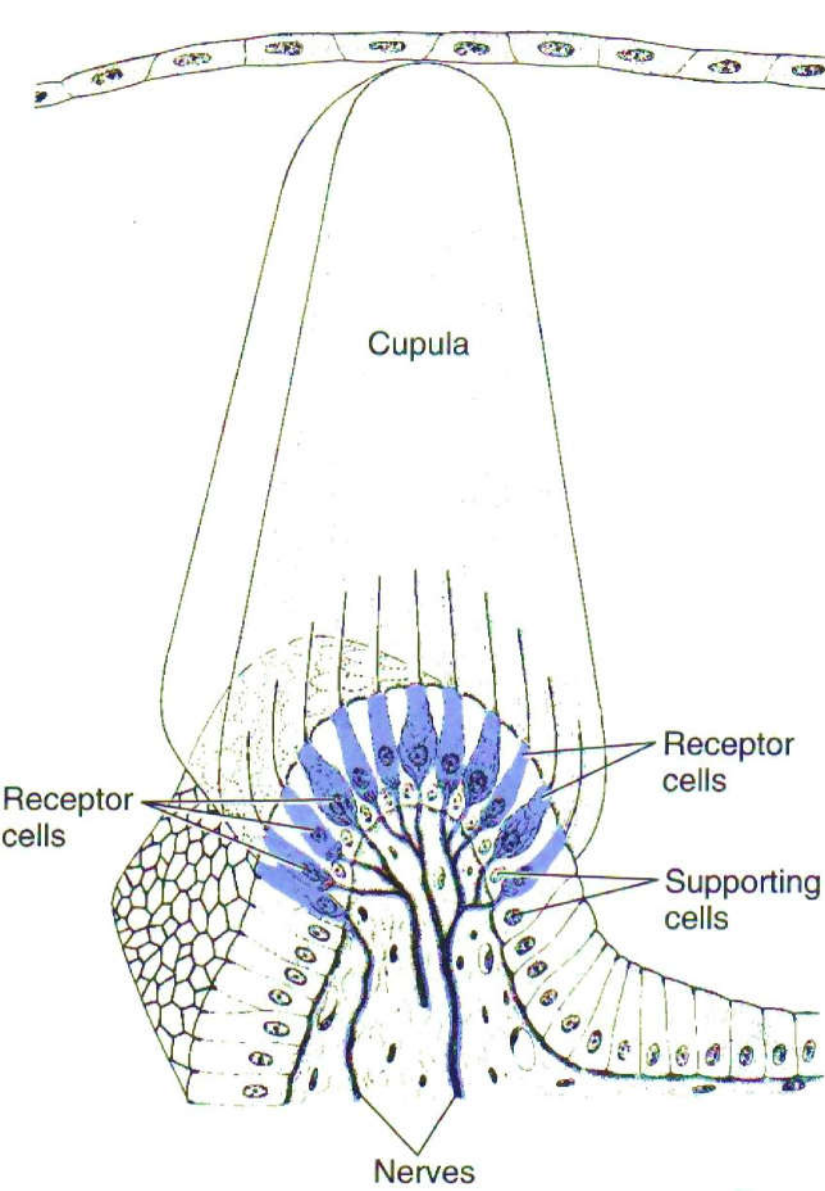
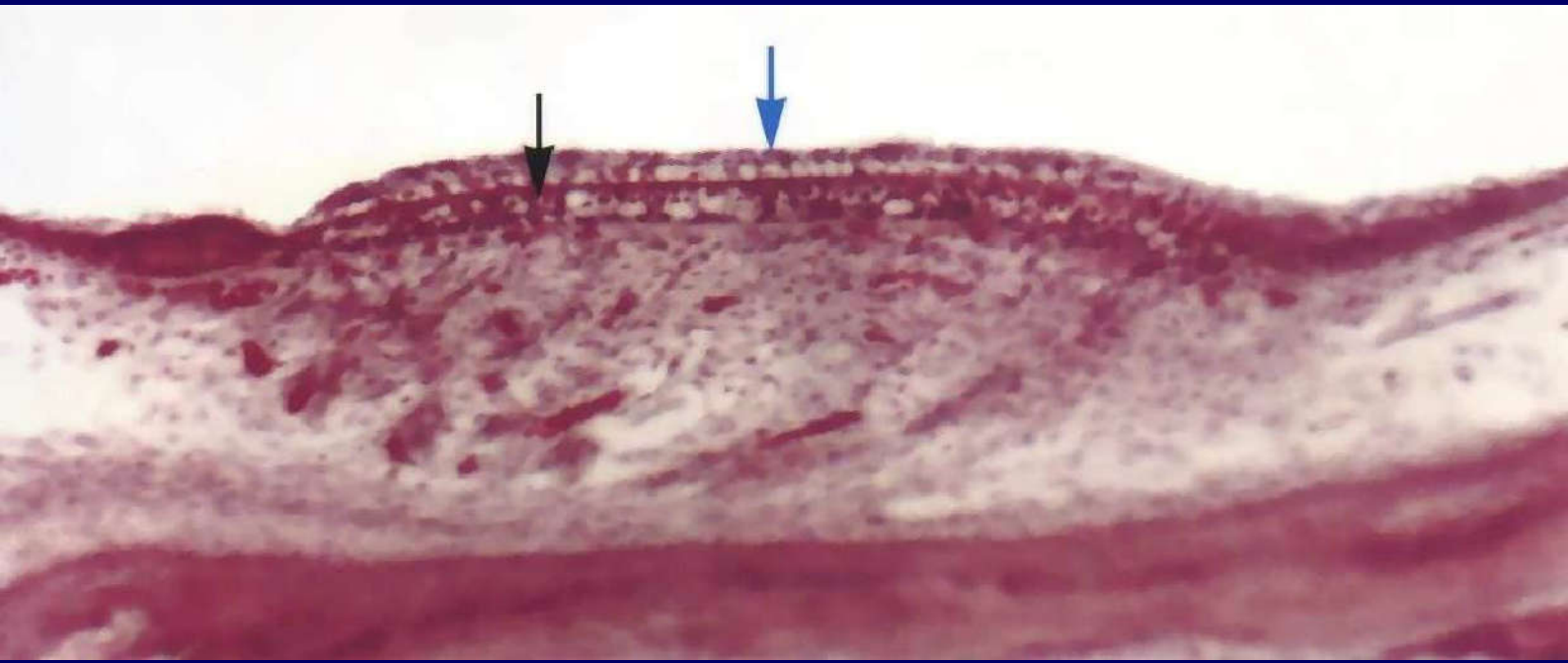


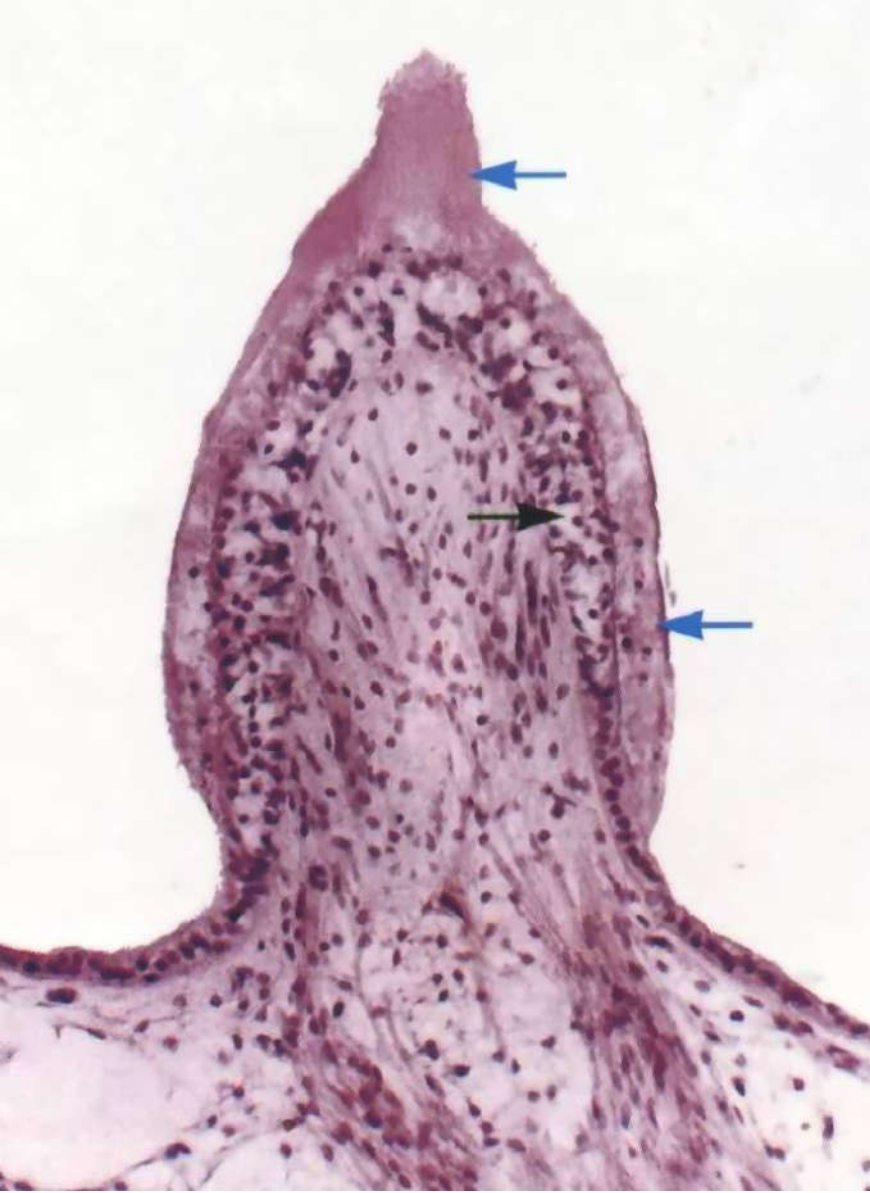
Figure 24–25. Structure of maculae.

cristae ampullaris





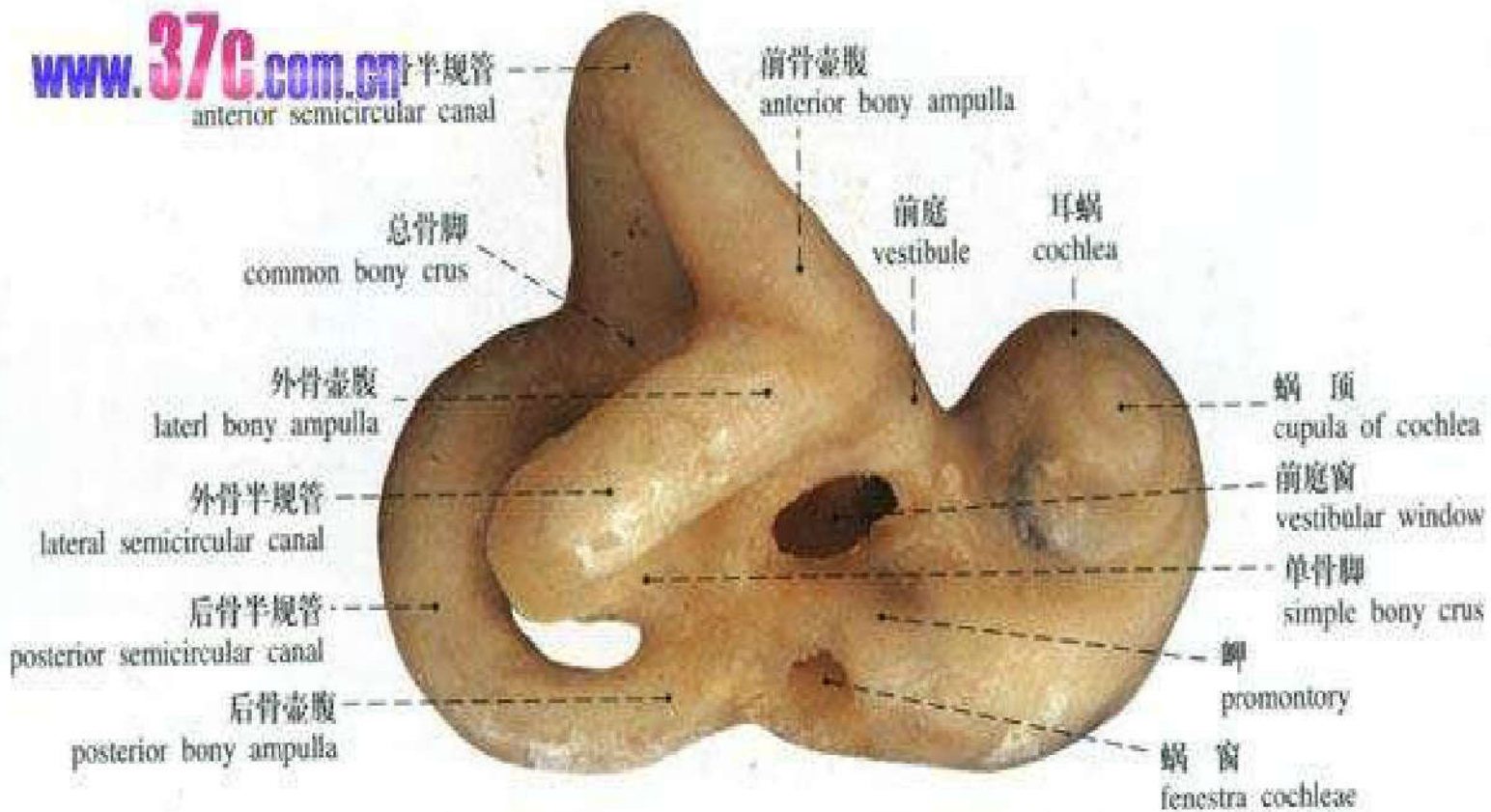
macula

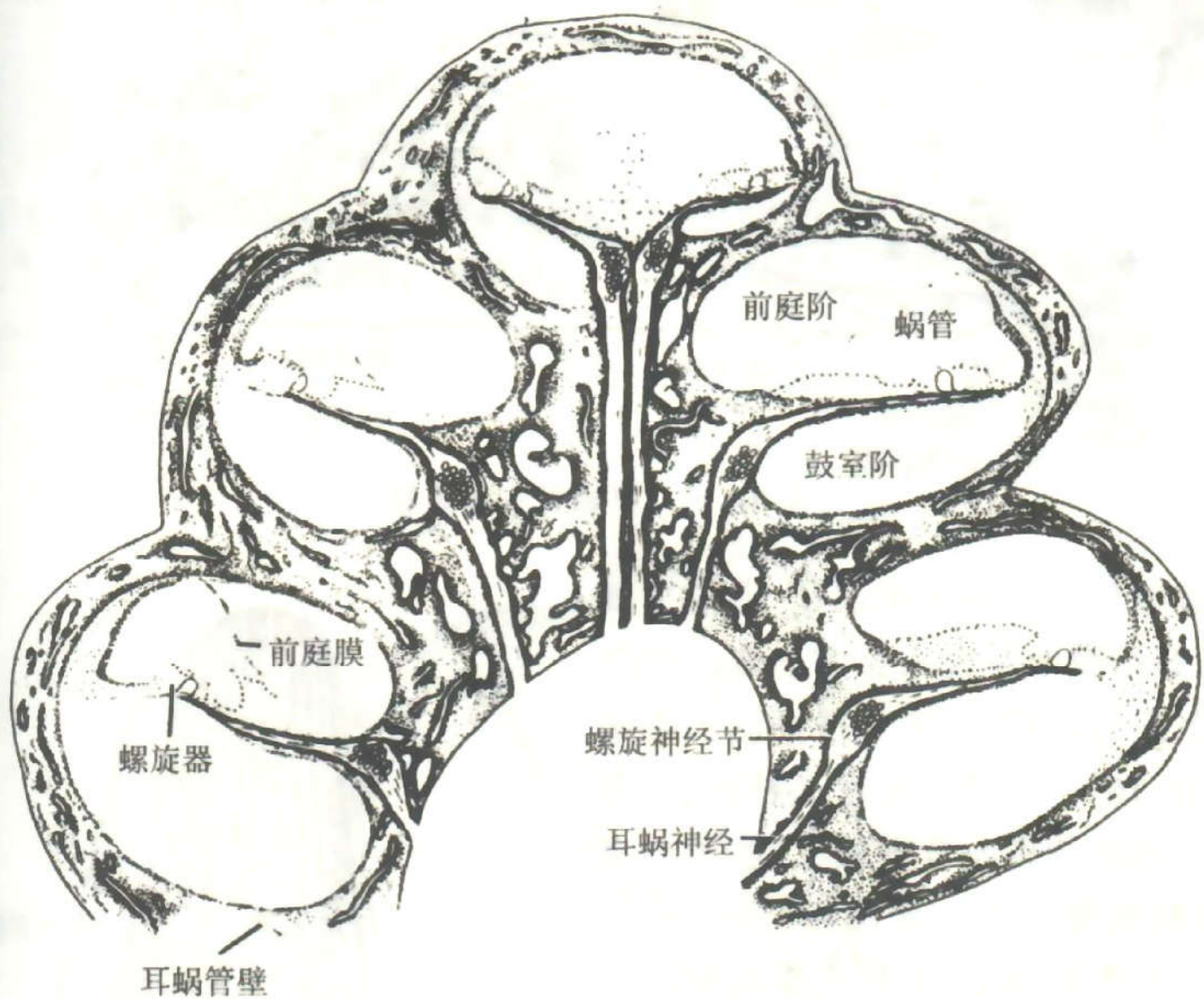


cristae ampullaris

• organ of Corti (spiral organ) 螺旋器

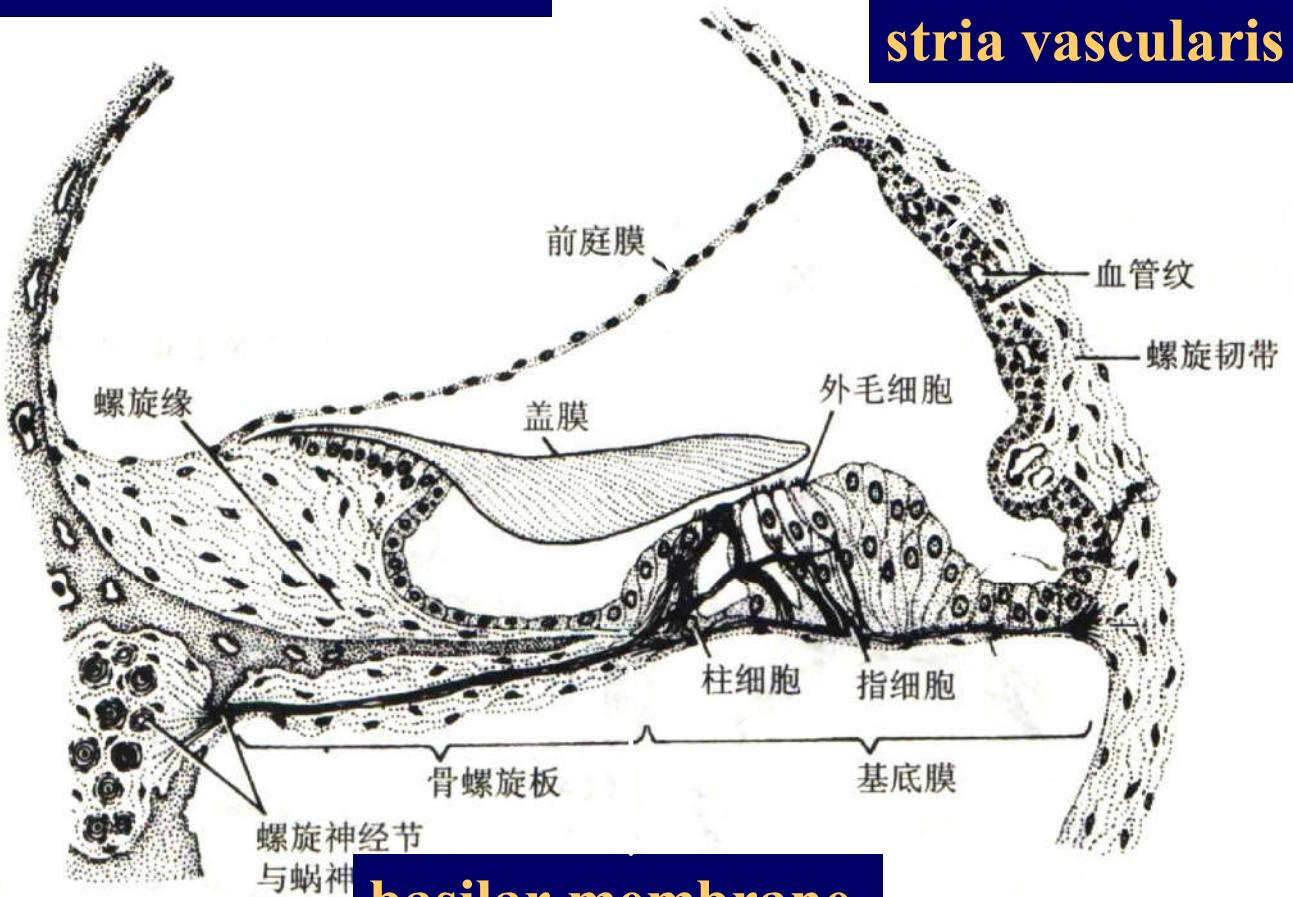
www.37c.com.cn





vestibular membrane

stria vascularis



basilar membrane

spiral organ or Corti's organ

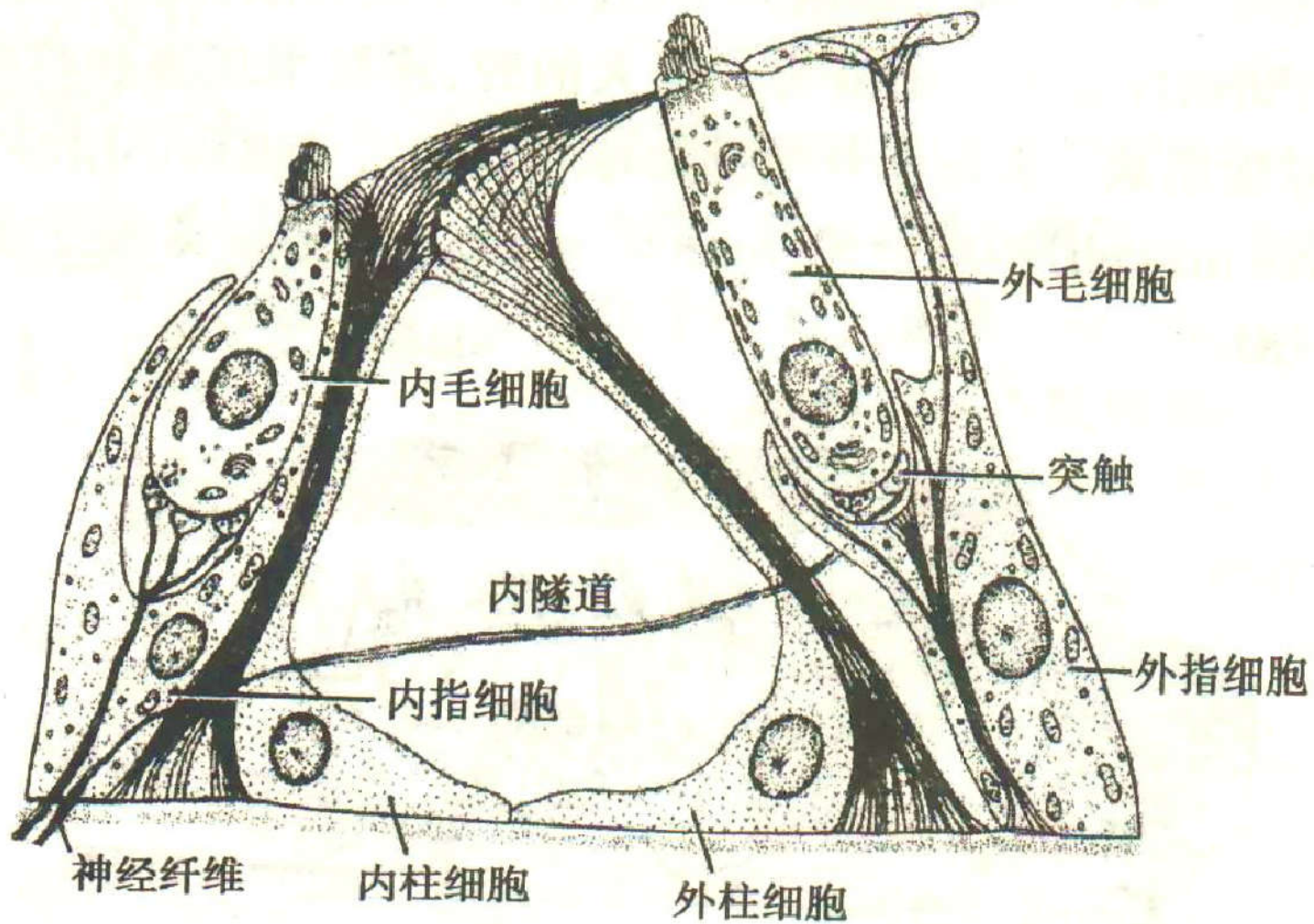
function:

auditory receptor

structure:

***located on basilar membrane**

***hair cell and supporting cell**





three key points:

- * **location**

- * **structure: hair cell**

supporting cell

- * **function**