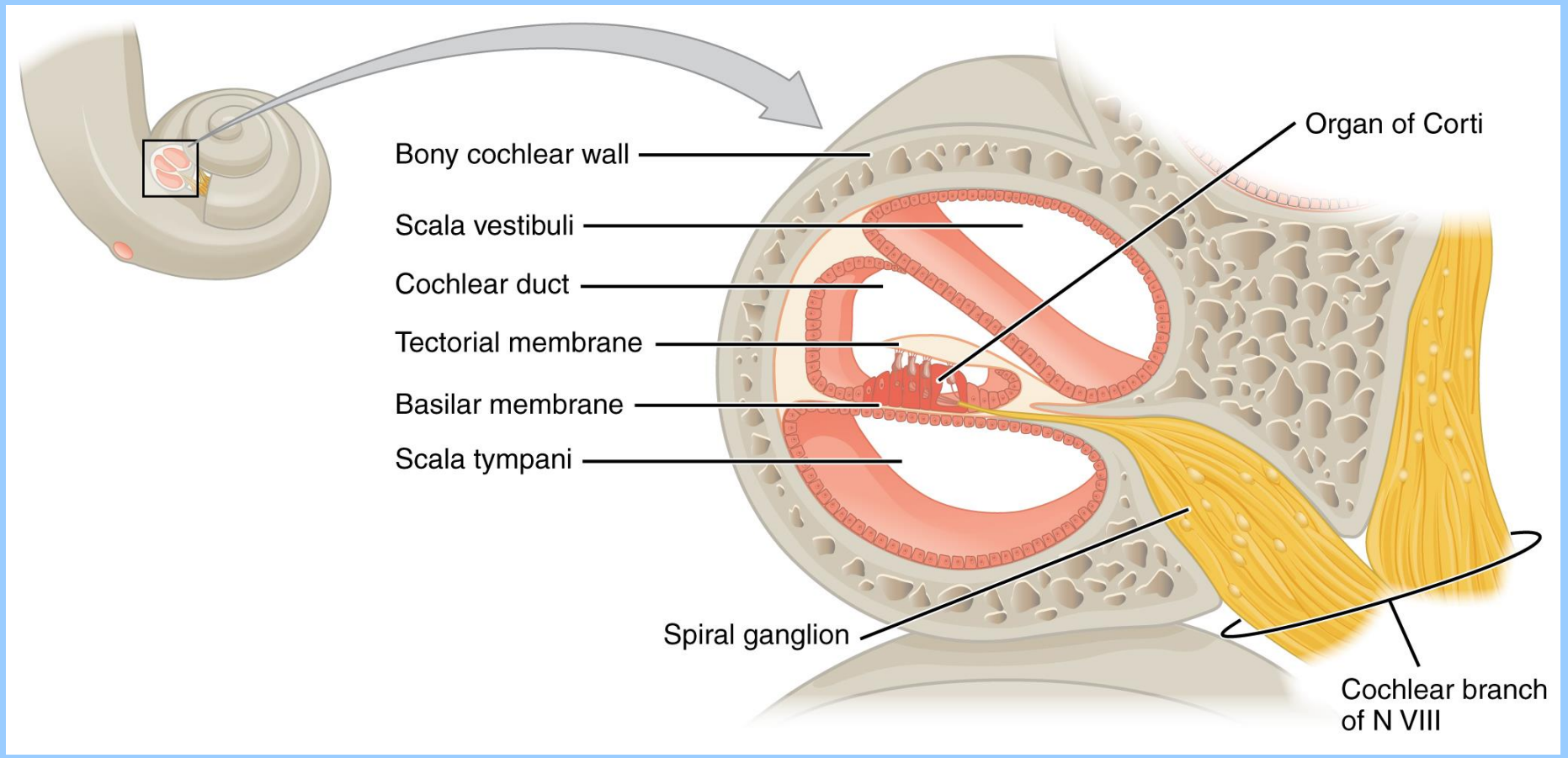
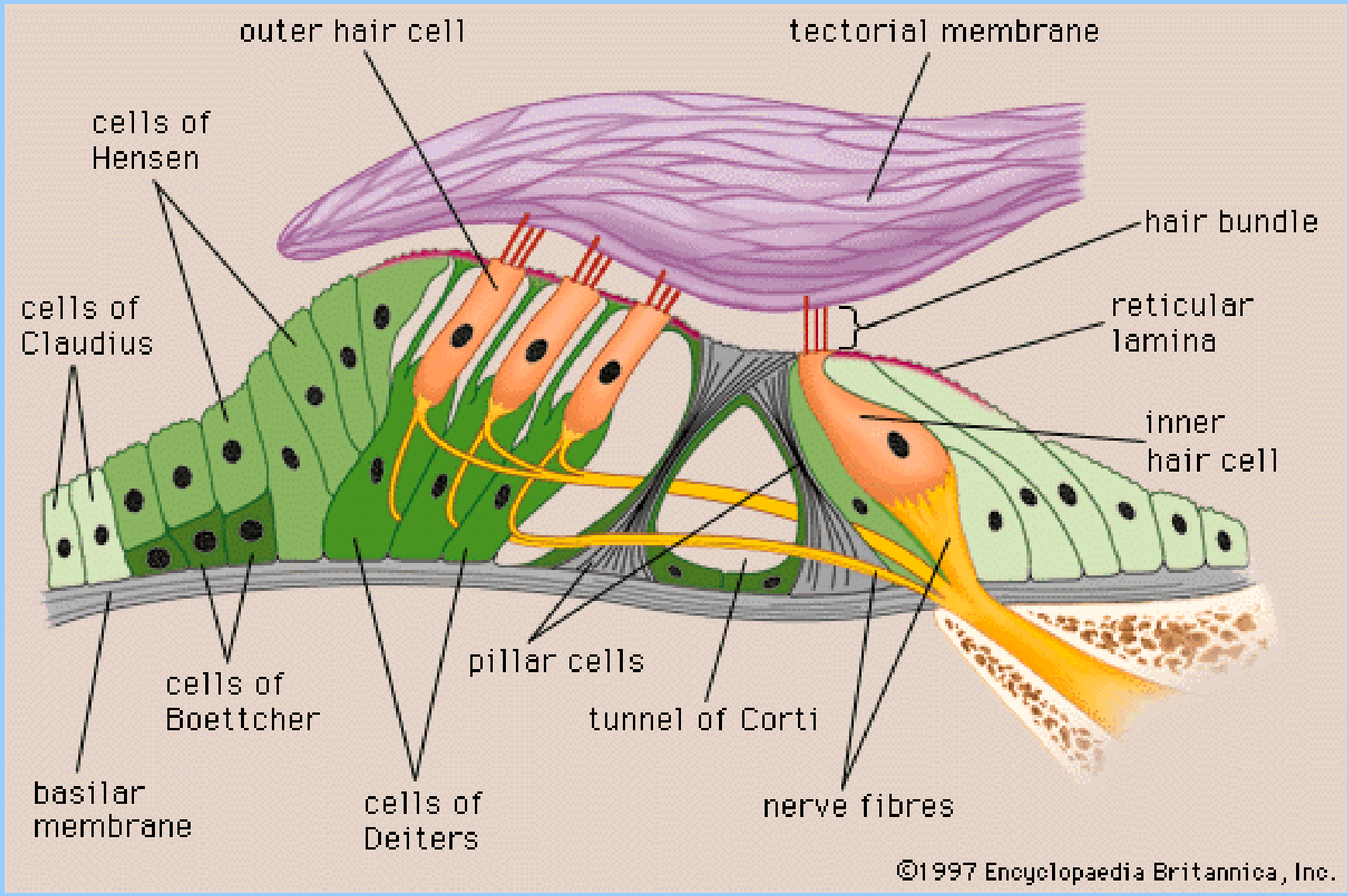
AUDITORY SYSTEM

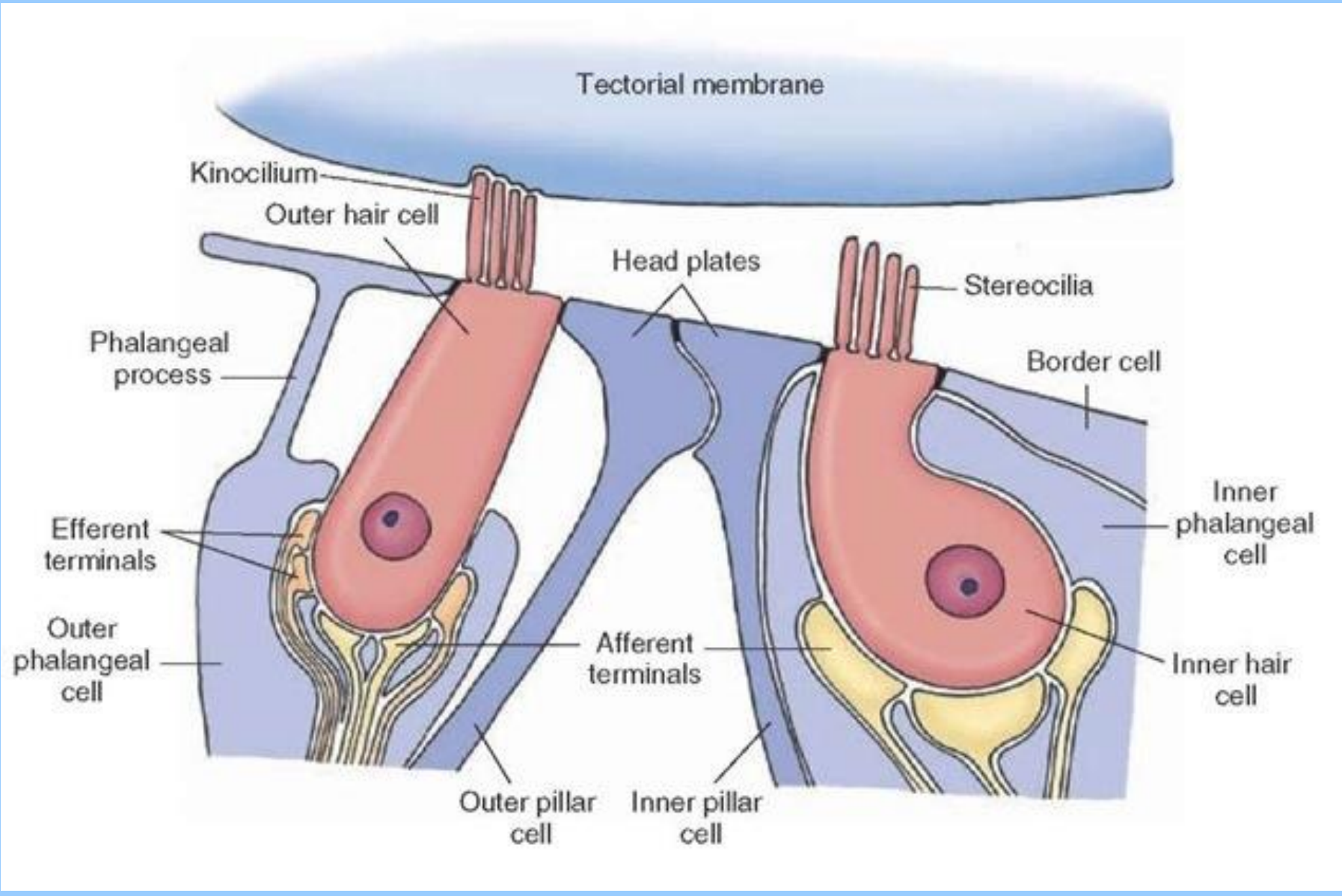
AUDITORY SYSTEM - the cochlea of the inner ear

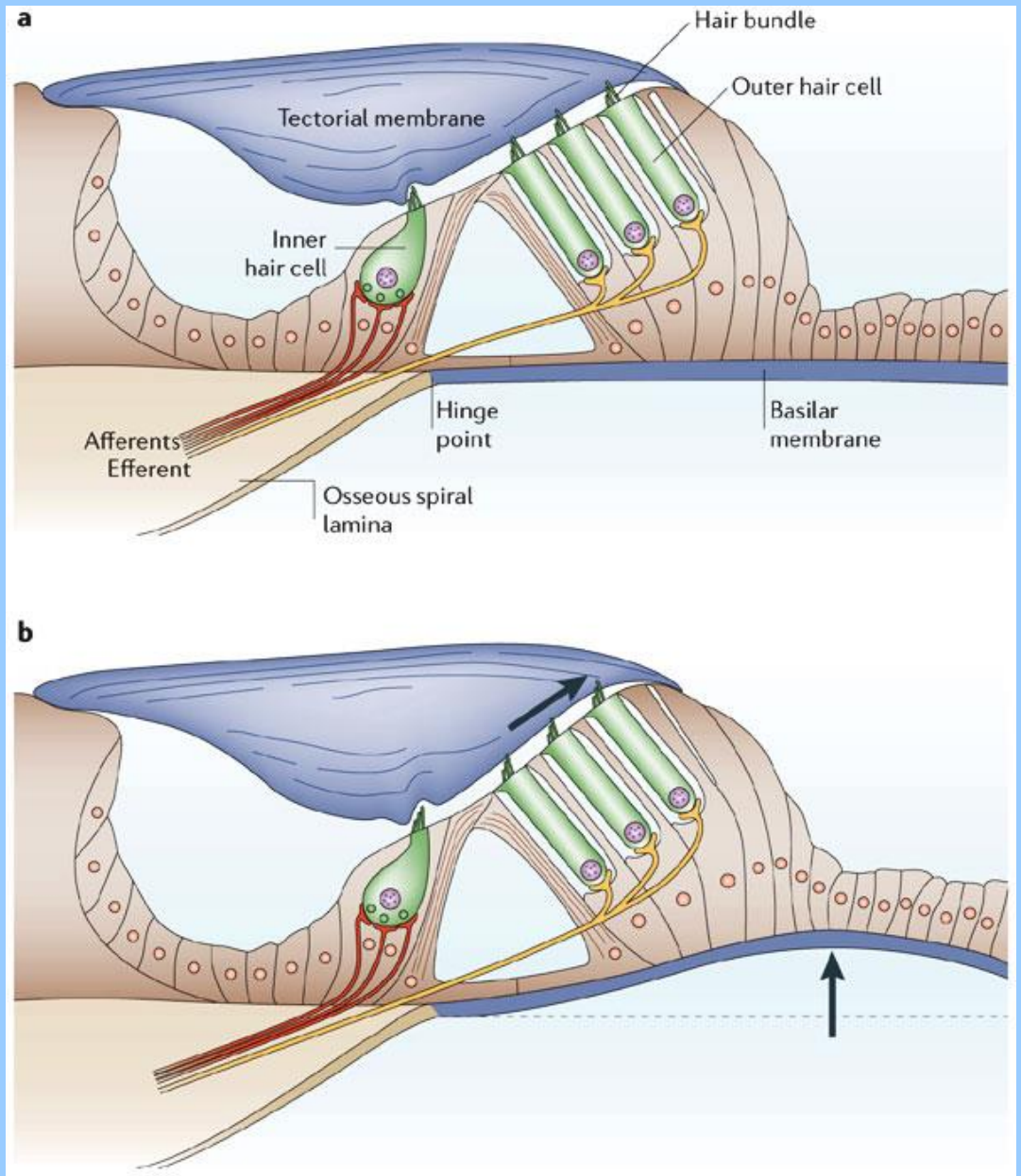


The organ of Corti



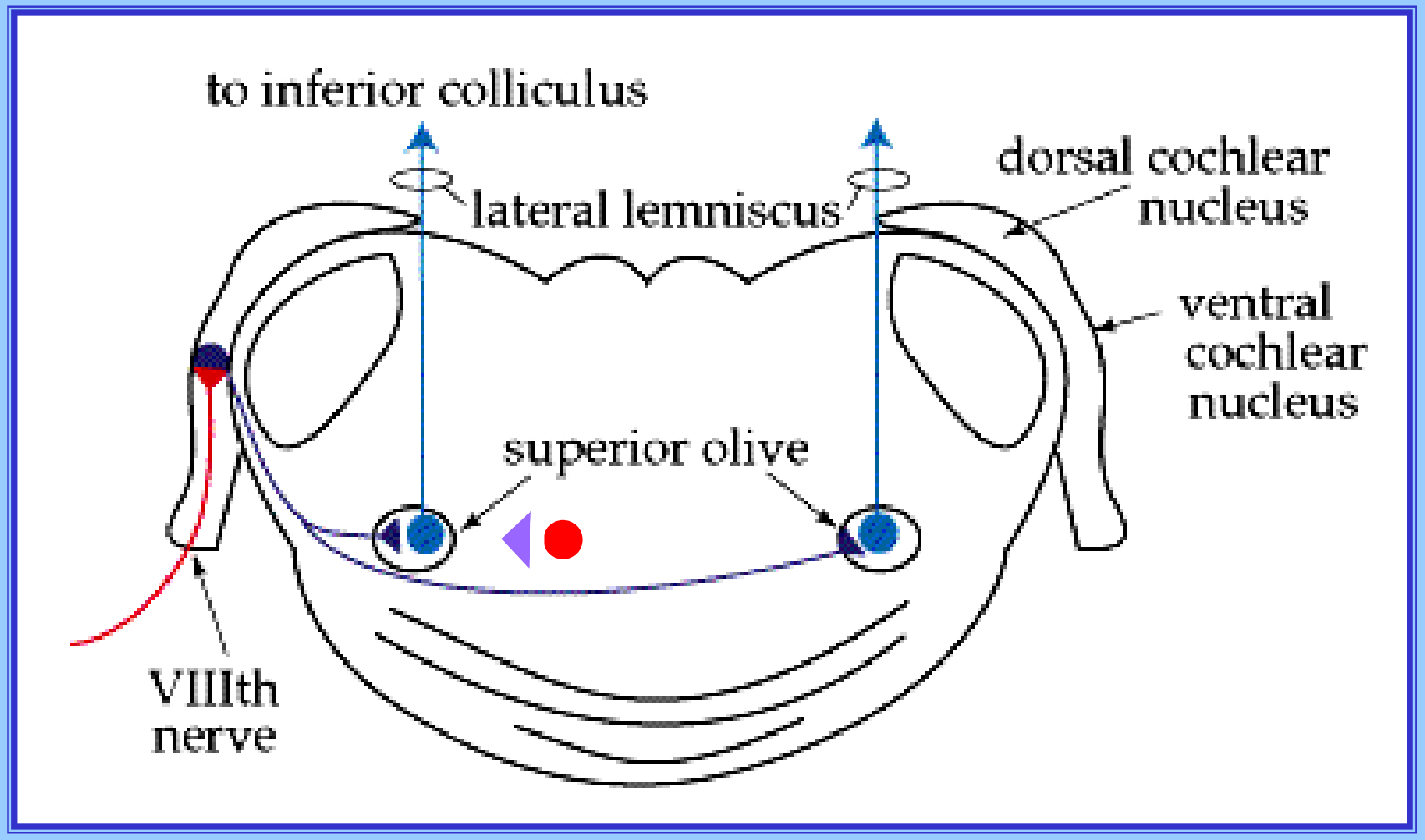
INNERVATION OF OUTER AND INNER HAIR CELLS





Ventral cochlear ncl.

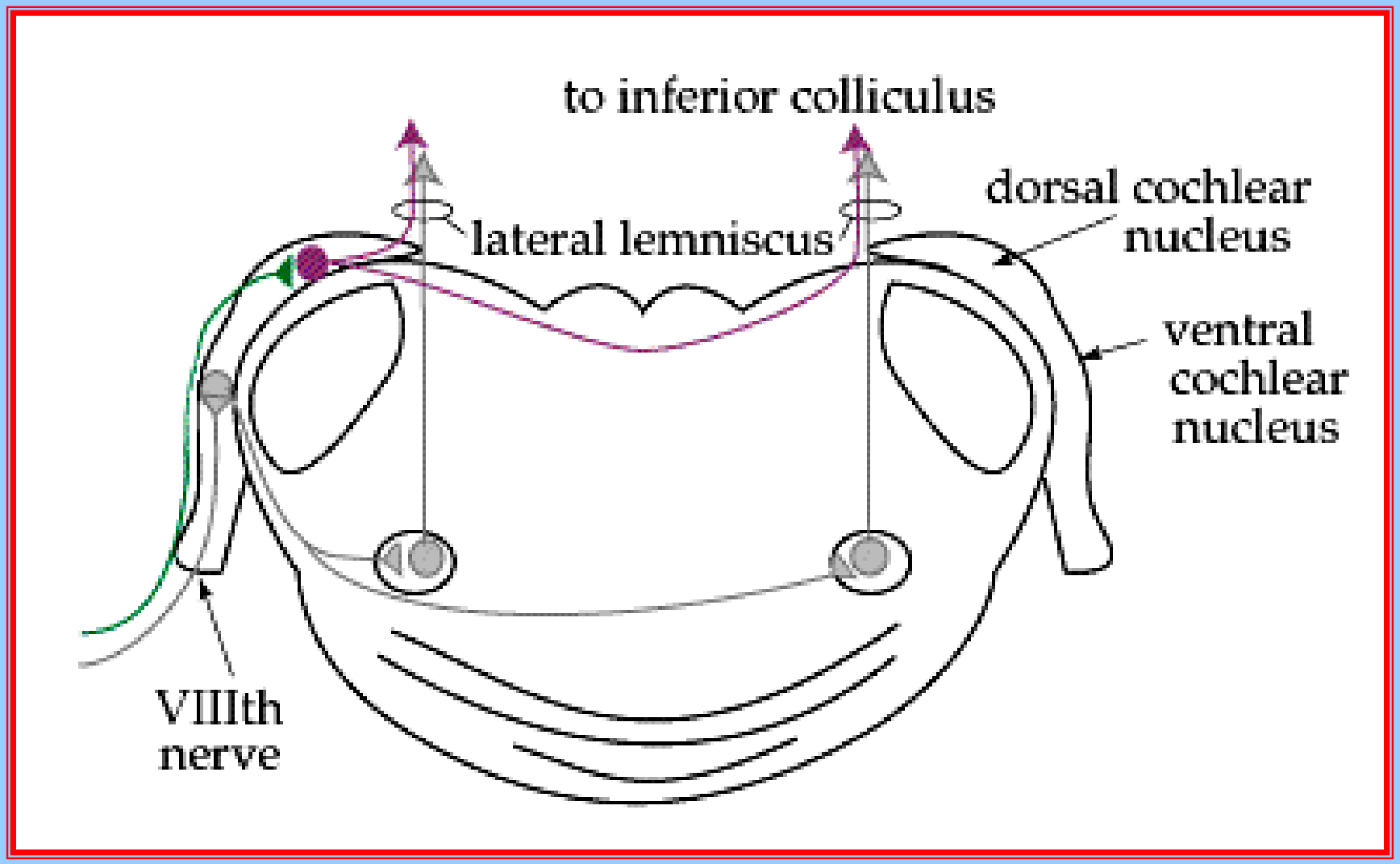
intensity of sound and lag for direction hearing



Dorsal cochlear ncl.

pitch of tone

tonotopic arrangement - direct connection to inferior colliculi ncl.



OTHER SUPERIOR NUCLEI

Superior olivary ncl. - input through interneurons of the trapezoid body

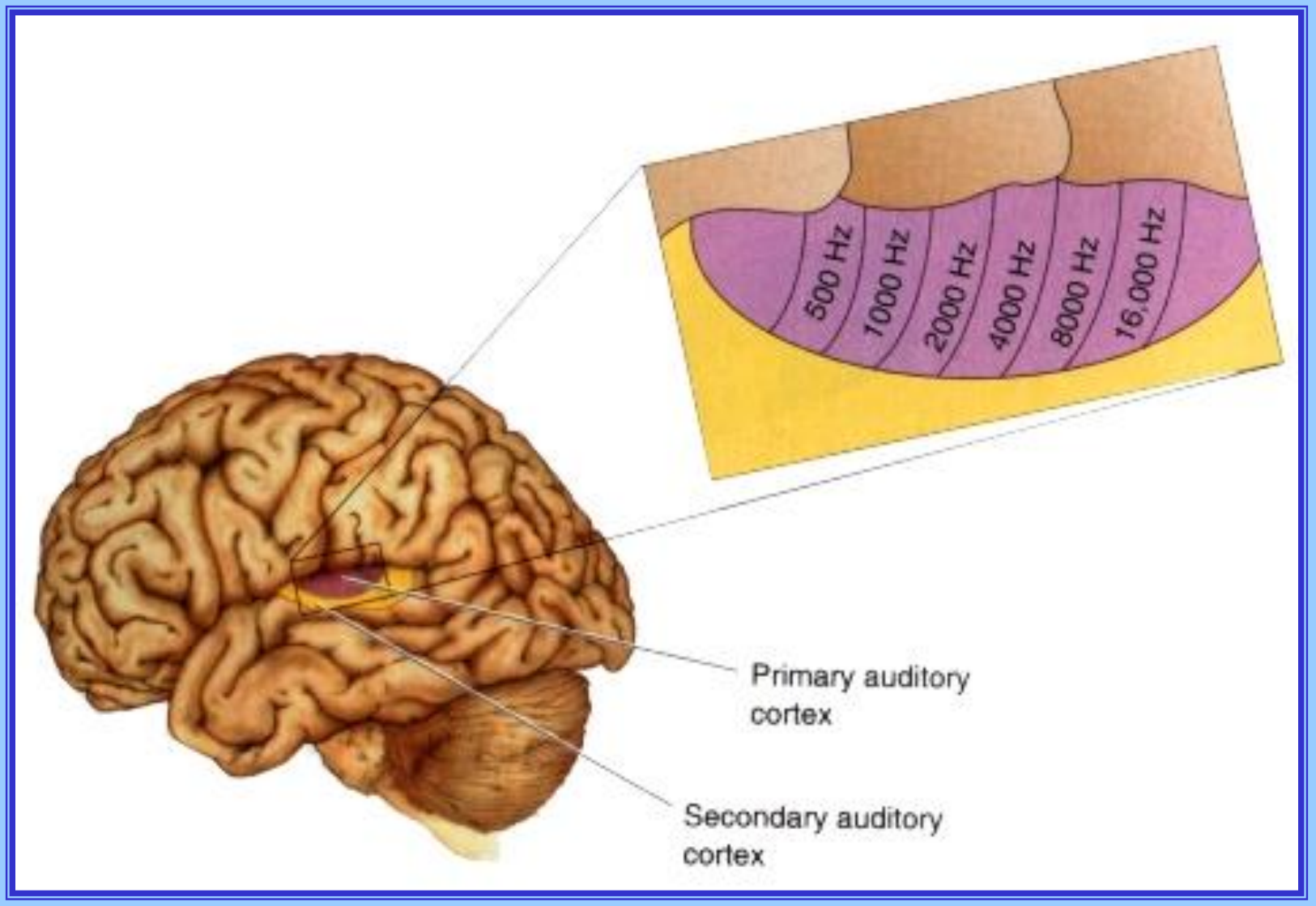
Inferior colliculus ncl.

- integration of space information from ncl. olivaris sup.
- integration of sound intensity and pitch of tone

Medial geniculate body

tonotopic arrangement, acoustic radiation – projection to cortex

PRIMARY AUDITORY CORTEX
a 41, 42



DESCENDENT AUDITORY PATHWAYS

- from auditory cortex and ncll. (e.g., superior olivary ncl.) – olivo-cochlear tract - outer hair cells - rise of sensitivity

- from auditory cortex - suppression of extreme inputs, vigilance