

Mesencephalic nucleus of CN V

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Nucleus for [CN V Trigeminal Nerve](#)

Conveys afferent proprioceptive fibers from extraocular and masticatory muscles and allows for bite modulation¹

“Afferent fibers of the mesencephalic nucleus convey pressure and kinesthesia sense from the teeth, periodontium, hard palate, and temporomandibular joint capsule”¹

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Name origin

Mesencephalic Nucleus gets its name “mesencephalic” since it comes from the midbrain, which develops out of the mesencephalon

1 Anatomy

“Although most cell bodies of the somatosensory neurons are located in the trigeminal ganglion, the cell bodies for proprioception and stretch receptors in the muscles of mastication are located in the mesencephalic nucleus in the dorsal pons”¹

1.1 Location

Inside the “... lower midbrain and upper pons lateral to the sylvian aqueduct along the lateral margin of the periaqueductal gray matter and anterolateral to the fourth ventricle, medial to the sensory nucleus”¹

2 Functions

“This nucleus is concerned with mechanisms that control the force of the bite”¹

2.1 Bite Modulation

“Axons from the mesencephalic nucleus project to the motor nucleus, completing a reflex arc in modulating the degree of bite”¹

1. Joo W, Yoshioka F, Funaki T, Mizokami K, Rhoton AL. Microsurgical anatomy of the trigeminal nerve. *Clinical Anatomy*. 2014;27(1):61-88. doi:[10.1002/ca.22330](https://doi.org/10.1002/ca.22330)