Nucleus Solitarius

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Definition

Nuclear group which extends in a rostral-caudal direction in the dorsal medulla, just below the spinovestibular tract (laterally) and the dorsal motor nucleus of the vagus nerve (medially). It is distinguished by the fact that on axial sections the nucleus appears to surround its tract. It is not a singular nucleus but rather a collection of nuclei. The more rostral portion of this “nucleus” receives input from pathways responsible for taste (sensory fibers from the *facial*, *glossopharyngeal*

and *vagus* nerves). By contrast, the caudal extension of this nuclear grouping subserves (a) those general visceral afferents (*glossopharyngeal* and *vagus* nerves) from the walls of the larynx, pharynx, and soft palate (afferent limb of the gag reflex); (b) the carotid body and sinus (monitor for oxygen content and arterial pressure of the blood); and (c) internal organs. In addition to their thalamocortical projections carrying information about taste, the solitary nuclei send efferent fibers to the hypothalamus and other brainstem nuclei. The latter are the source of preganglionic, parasympathetic fibers that help modulate cardiovascular, respiratory and other internal organ systems.

Cross-References

► [Ageusia](#)