

The respiratory center is a complex group of nuclei located within the pons and medulla oblongata. Upon receiving this information, the dorsal respiratory group stimulates the phrenic nerve to contract the diaphragm, as well as the thoracic spinal nerves to contract the intercostal muscles. The majority of its neurons are found within the nucleus of the solitary tract, which receives information from the peripheral chemoreceptors about the blood oxygen saturation. However, when in need of increased pulmonary ventilation, the dorsal respiratory group stimulates the ventral group, which in turn stimulates the accessory respiratory muscles. The pontine pneumotaxic center lies within the parabrachial nucleus of the rostral pons and it is connected with the dorsal respiratory group of neurons. The ventral respiratory group consists of the rostral part of the nucleus ambiguus, and a small satellite nucleus called the nucleus retroambiguus which lies caudally to the former. The former two are found within the dorsal and ventral medulla, respectively, while the latter lies within the rostral pons. It consists of three parts: the dorsal respiratory group, ventral respiratory group and pneumotaxic center. The dorsal respiratory group is in charge of inspiration or inhaling the air, and it plays the most fundamental role in the breathing process. These neurons are inactive during normal, non-forced breathing. The end result is inspiration.