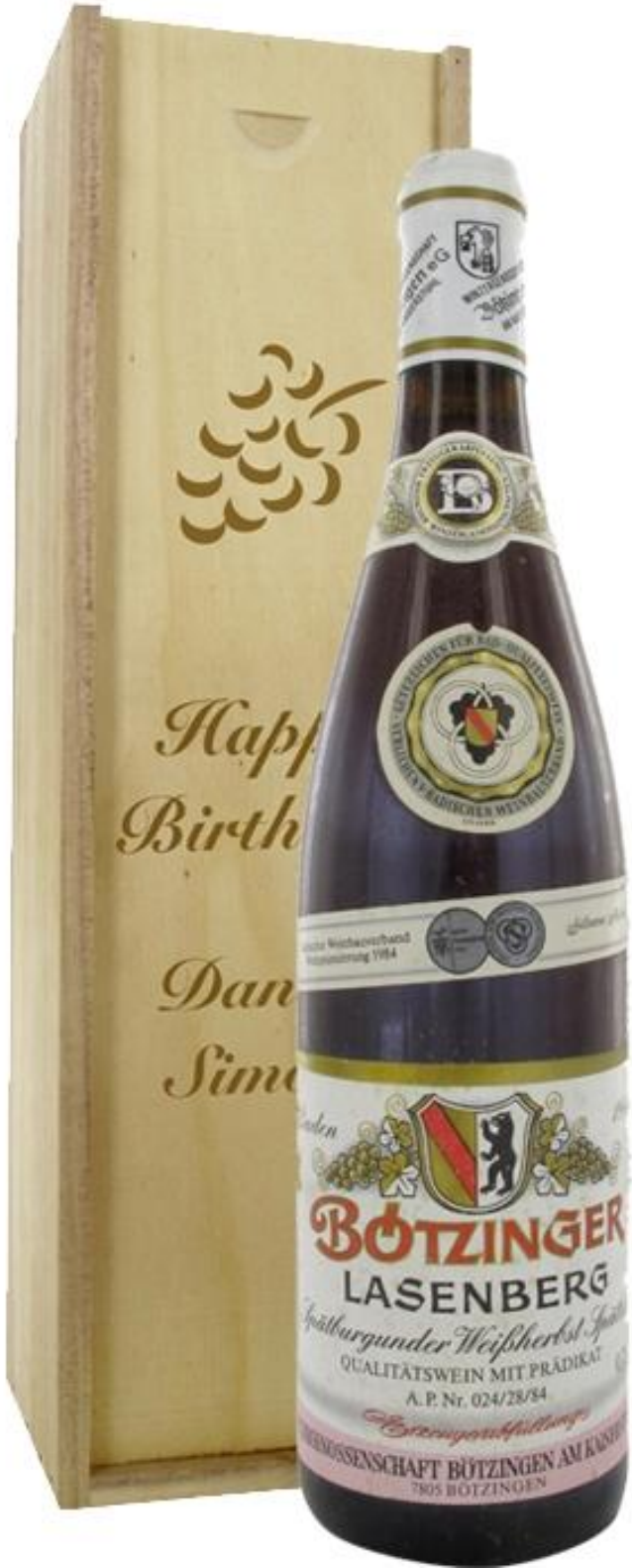
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7805 BÖTZINGEN

In mammals, the **Bötzinger complex (BötC)** is a group of neurons located in the rostral ventrolateral medulla, and ventral respiratory column. In the medulla, this group is located caudally to the facial nucleus and ventral to nucleus ambiguous.[1][2]

Contents



## Function

The Bötzinger complex plays an important role in controlling breathing[3][4] and responding to hypoxia.[5][6] The BötC consists primarily of glycinergic neurons[7] which inhibit respiratory activity. Of the respiratory cycle phases BötC generates post-inspiratory (Post-I) activity and augments expiratory (aug-e) activity.[8][9][10]

## Name

The Bötzinger Complex was named by UCLA Professor Jack Feldman in 1978. Feldman named this area after a bottle of white wine named Botzinger present at his table during a scientific meeting in Hirschhorn, Germany, that year.[11]

## Connections

The Bötzinger Complex has projections to

- Phrenic pre-motor neurons in the medulla[12]
- Phrenic motor neurons in the cervical spinal cord[13][14]

- The dorsal respiratory group (DRG) [13][15]
- Ventral respiratory group (VRG)[12][13][16]
- Pre-Bötzinger complex [17]
- Bötzinger complex [2][13][18][19]
- Parabrachial Kolliker-Fuse nucleus [20]

Only augmenting expiratory neurons of BötC, which are exclusively glycinergic, project to the phrenic nucleus.[21][14]

Projections to the Bötzinger complex include the nucleus tractus solitarii (NTS)[22][23] the DRG and the VRG.[24]

## Physiology

These neurons are intrinsic pacemakers.[25] Post-I neurons display an initial burst of activity followed by decrease in activity at the end of inspiration. Aug-E neurons begin firing during the E2 phase and end before the phrenic nerve burst.[19][26]

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