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[\[PDF \(1407K\)\]](#) [\[References\]](#)**Heterogeneous expression of the voltage-gated calcium channel  $\alpha 2$  subunit and the voltage-gated sodium channel  $\alpha$  subunit in chicken spinal motoneurons**[Yong-Nan Li](#)<sup>1)2)</sup>, [Yan-Chao Li](#)<sup>3)</sup>, [Hirofumi Kuramoto](#)<sup>4)</sup>, [Hiroshi Sakamoto](#)<sup>5)</sup>, [Toyoko Kawate](#)<sup>5)</sup>, [Zi-Chao Yang](#)<sup>2)</sup> and [Yuan-Gui Huang](#)<sup>1)</sup>

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**ABSTRACT**

The localization of the voltage-gated calcium channel (VGCC)  $\alpha 2$  and the voltage-gated sodium channel (VGSC)  $\alpha$  subunits was immunohistochemically investigated in chicken spinal motoneurons. Approximately 83% and 46% of spinal motoneurons were positive for VGCC $\alpha 2$  and VGSC $\alpha$  subunits, respectively. Almost all VGSC $\alpha$  subunit-positive motoneurons exhibited the VGCC $\alpha 2$  subunit immunoreactivity. There were different patterns in occurrence, intensity or nuclear/cytoplasmic stainability of the VGCC $\alpha 2$  and VGSC $\alpha$  subunits among the motoneurons. This study presents the first cellular morphological evidence for the VGCC $\alpha 2$  and VGSC $\alpha$  subunits in spinal motoneurons, postulating that the heterogeneous expression of VGCC $\alpha 2$  and VGSC $\alpha$  subunits in the motoneurons may reflect various motor activities.

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