

**J4****Identification of novel  $\text{Ca}^{2+}$  binding proteins in junctional sarcoplasmic reticulum of rabbit skeletal muscle**

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Muscle contraction and relaxation are regulated by the sarcoplasmic reticulum (SR)-mediated  $\text{Ca}^{2+}$  release and  $\text{Ca}^{2+}$  uptake. The SR functions are closely related with the proteins residing in the SR such as ryanodine receptor,  $\text{Ca}^{2+}$ -ATPase, calsequestrin, triadin and junctin. In an effort to further identify important functional SR proteins, experiments of sucrose-density gradient of SR fractionation, concanavalin A treatment, 2D gel electrophoresis,  $^{45}\text{Ca}^{2+}$  overlay, Stains-all staining, and peptide finger printing (PFP) were carried out. The studies identified 3 new acidic  $\text{Ca}^{2+}$  binding proteins (① 48 kDa, pI = 4.0 ② 31 kDa, pI = 4.8 ③ 11.5 kDa, pI = 4.5). Among the 3  $\text{Ca}^{2+}$  binding proteins, the 48 kDa protein was found to be the skeletal muscle homologue of calumenin of which function is not elucidated yet. Currently, we are attempting to identify the new  $\text{Ca}^{2+}$  binding proteins.