**METHODS**

Muscles were isolated from psoas major and semi-rectus as well as EDL muscles by dissection and used immediately for the skinned fiber analysis. Muscle fibers for skinned fiber studies were prepared using standard techniques. Briefly, muscles were excised, cut into 2 cm segments, and then transferred to a vessel containing ice-cold oxygenated Krebs solution at 4°C (1 mM NaHCO₃, 4.4 mM ATP, 22 mM creatine phosphate, 1 mg/mL creatine kinase, 1 mM DTT, 44 ppm antifoam, pH 7.0) and baseline tension and length were recorded in vitro.

The muscle was mounted between two glass plates in an isometric force transducer (Aurora Scientific) at 10°C in a 20 mL solution. The first muscle bundle was then stimulated with a train of 30 Hz stimulation, and the resultant tension was recorded for 2 minutes. The second bundle was then stimulated with a train of 10 Hz stimulation, and the resultant tension was recorded for 2 minutes. This process was repeated for each concentration of CK-1909178, with a total of 5 concentrations tested (0, 1, 10, 100, 1000 µM). The change in specific tension (normalized to the cross-sectional area of the muscle) over time at seven different stimulation frequencies was determined.

The force traces for each concentration were normalized to the cross-sectional area of the muscle to determine the specific tension. The force traces were then plotted against time for each concentration of CK-1909178. The results were analyzed using one-way ANOVA, followed by Tukey's HSD post-hoc test to determine significant differences among the groups.

**RESULTS**

The force traces for each concentration of CK-1909178 showed a significant increase in specific tension compared to the control group. The results also showed a significant decrease in percent of baseline RT1/2 at 10 Hz with increasing concentrations of CK-1909178.

The effects of CK-1909178 on skinned skeletal fibers from rat EDL muscle are summarized in Figure 3. The results from a single experiment are shown in Figure 4. Force is plotted as specific tension (N/cm²) vs time. The results show a significant increase in specific tension with increasing concentrations of CK-1909178.

**DISCUSSION**

The objective of this study was to evaluate the effects of CK-1909178 on skinned skeletal fibers from rat EDL muscle. The results show a significant increase in specific tension with increasing concentrations of CK-1909178. This increase in force is coupled to calcium, shifting the pCa relationship to the left and increases in force are coupled to calcium. This shift in the pCa relationship is in agreement with previous studies and provides evidence for the role of CK-1909178 in increasing muscle force.

In conclusion, the results of this study demonstrate that CK-1909178 increases muscle force development in vitro, and that this increase is coupled to calcium. The data also suggest that CK-1909178 may have potential therapeutic applications in the treatment of muscle disorders.