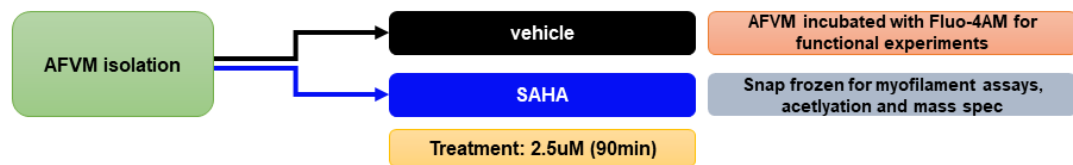
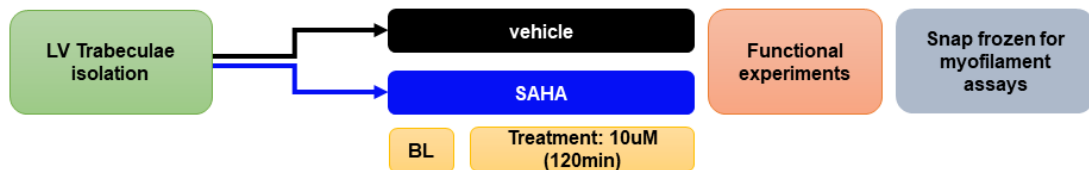


## Supplemental Figures

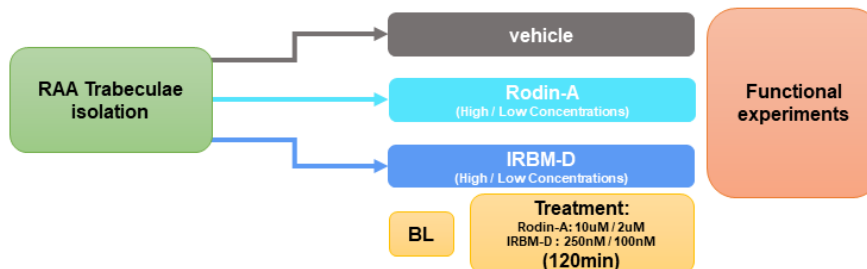
### Feline: Acute SAHA Treatment



### Human: Acute SAHA Treatment

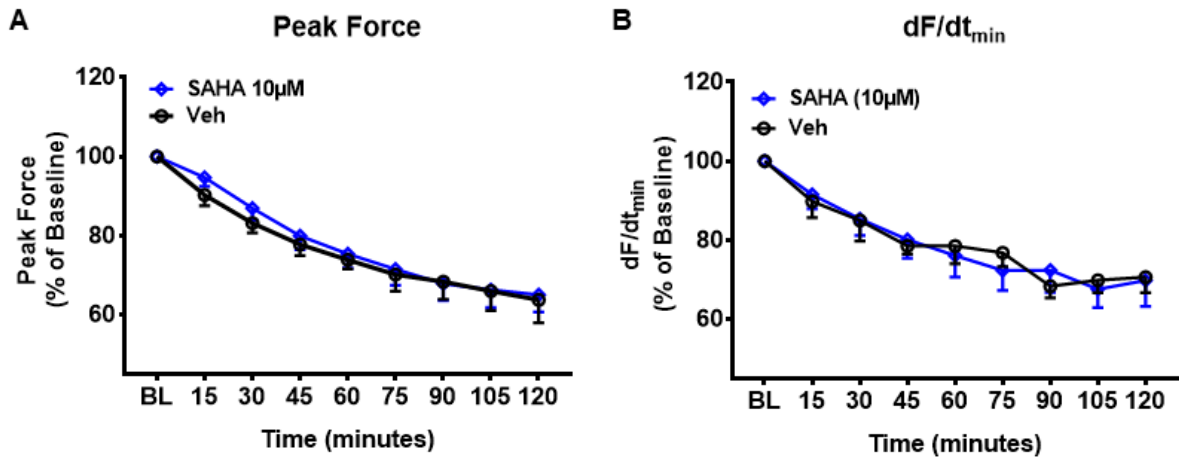


### Human: Acute Selective HDAC Inhibitor Treatment



## Figure S1. Study Design

Adult feline ventricular myocytes (AFVM) were isolated from domestic short hair felines (n=4, 6 months old) and treated with either vehicle or SAHA for 90 minutes. AFVM were then incubated with Fluo-4AM for functional experiments to assess contractility and calcium handling or snap frozen for myofilament assays, acetylation, and mass spectrometry. Trabeculae were isolated from ventricles of human non-failing donor hearts that were not suitable for transplantation or right atrial appendages (RAA) (LV: n=7 patients, RAA: n=30 patients). LV trabeculae were treated with vehicle or SAHA for 120 minutes for functional experiments before being snap frozen for myofilament assays. RAA trabeculae were treated with vehicle or a low/high dose of a selective HDAC inhibitor for 120 minutes for functional experiments.



**Figure S2. Effect of SAHA on trabeculae function**

Trabeculae treated with SAHA generated similar (A) peak force and (B) dF/dt<sub>min</sub> compared to vehicle treatment; n=5-13 trabeculae per parameter from 7 patients. repeated measure two-way ANOVA was performed. \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001. Data shown are means ± SEM.

## Supplemental Table

**Table S1. Patient Characteristics**

	Female	LV EF %	Age (years)	Body Mass Index (kg/ m <sup>2</sup> )
<b>LV trabeculae Non-failing donors (n=7)</b>	3	62 ± 5	60 ± 7	33 ± 11
<b><i>Low concentration:</i> RAA trabeculae Non-failing donors (n=18)</b>	2	60 ± 6	65 ± 10	26.5 ± 4.8
<b><i>High concentration:</i> RAA trabeculae Non-failing donors (n=12)</b>	2	60 ± 8	68 ± 9	29 ± 5