

## Supplement Figures and legends

### **Fig. S1. The activation of TRPC6 reporter by OAG is dependent on the extracellular $\text{Ca}^{2+}$ .**

Representative time courses of normalized FRET/CFP emission ratio of TRPC6 reporter in HEK293T cultured in  $\text{Ca}^{2+}$  free medium with 5  $\mu\text{M}$  BAPTA under the stimulation of 100  $\mu\text{M}$  OAG. The data represent the means $\pm$ SD of each time point from multi-samples by setting the average FRET/CFP ratio of time points before stimulation to 1.0. “n” represents the cell number in each group.

### **Fig. S2. TRPC6 responded to OAG stimulation after TG pretreatment.**

Representative time courses of normalized FRET/CFP emission ratio of TRPC6 reporter in HEK293T with 1  $\mu\text{M}$  TG pretreatment for 1 hr before stimulated by 100  $\mu\text{M}$  OAG. The data represents the means $\pm$ SD from multi-samples as described in Fig. S1. “n” represents the cell number in each group.

### **Fig. S3. The effect of TG on the PDGF induced ER $\text{Ca}^{2+}$ release.**

(A) Representative time courses of normalized FRET/CFP emission ratio of ER  $\text{Ca}^{2+}$  reporter in response to 10 ng/ml PDGF stimulation (time 0) in MEFs. (B)

Representative time courses of normalized FRET/CFP emission ratio of D3cpv reporter in MEFs. 1  $\mu\text{M}$  TG and 10  $\mu\text{M}$  ATP were added at time 0 and 40 min as indicated, respectively. The data represents the means $\pm$ SD from multi-samples as described in Fig. S1. “n” represents the cell number in each group.

### **Fig. S4. The activation of TRPC6 reporter by PDGF is dependent on the**

**extracellular Ca<sup>2+</sup>.**

Representative time courses of normalized FRET/CFP emission ratio of TRPC6 reporter in 1  $\mu$ M TG pretreated MEFs cultured in Ca<sup>2+</sup> free medium with 5  $\mu$ M BAPTA under the stimulation of 10 ng/ml PDGF. The data represents the means $\pm$ SD from multi-samples as described in Fig. S1. “n” represents the cell number in each group.

### **Movie legends**

#### **Movie 1. OAG activates TRPC6 reporter but not its mutant in HEK293T cells.**

FRET/CFP emission ratio of TRPC6 reporter (left) and its mutant (right) in response to 100  $\mu$ M OAG in HEK293T cells with cold and hot colors representing low and high activities of reporter during 12 min imaging. The FRET/CFP emission ratio range is from 1.7 to 3.2.

#### **Movie 2. PDGF activates TRPC6 reporter but not its mutant in MEFs.**

FRET/CFP emission ratio of TRPC6 reporter (left) and its mutant (right) in response to 10 ng/ml PDGF in MEFs with cold and hot colors representing low and high activities of reporter during 12 min imaging. MEFs were pretreated with 1  $\mu$ M TG for 1 hr before imaging. The FRET/CFP emission ratio range is from 1.6 to 3.0.

Figure S1

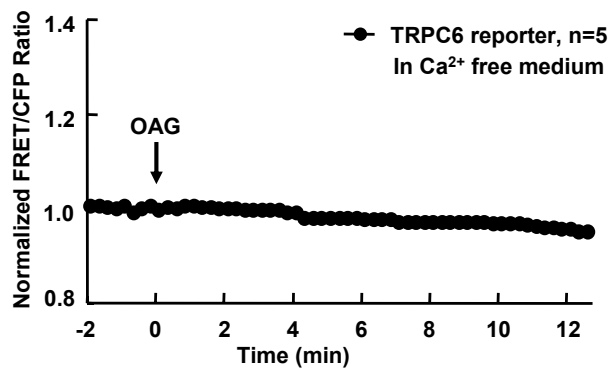


Figure S2

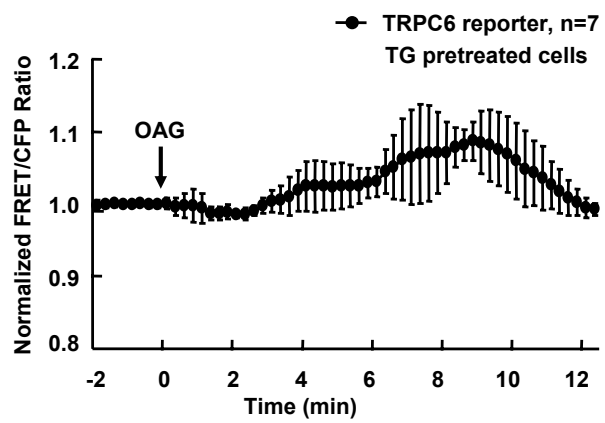
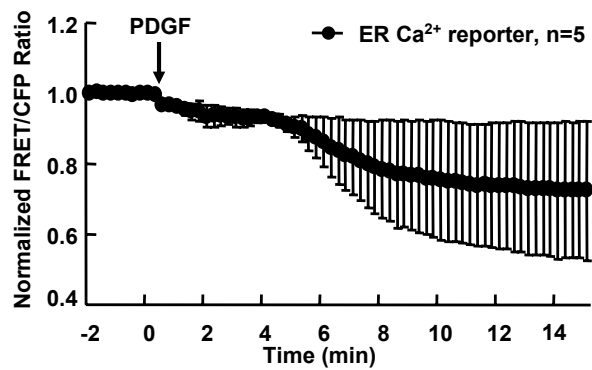
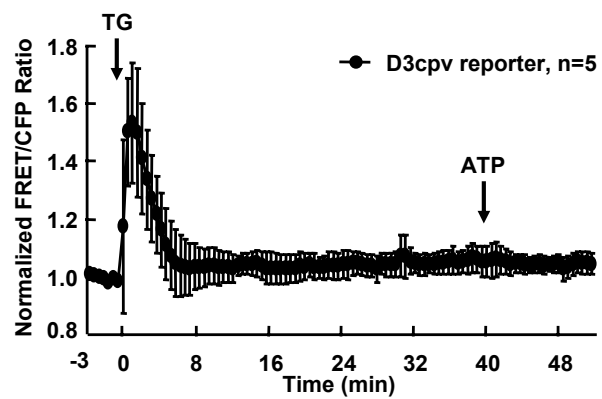


Figure S3

A



B



**Figure S4**

