Supplementary figure 1: Validation of functionality of TRPM3 stably expressed in HEK-293 cells

Pregnenolone sulfate and nifedipine induce Ca^{2+} responses in HEK-293 cells stably expressing TRPM3 channels: 10 μM and 50 μM of agonist concentration were used to induce the channel activity.

Supplementary figure 2: Localization of TRPM3 in HEK-293 stably expressing the channel protein.

In order to show the expression levels of TRPM3 immunocytochemistry was performed in HEK-293 cells stably expressing the protein. The cells were fixed and blocked using 3% BSA in PBS and were incubated with primary anti-Myc antibodies overnight at 4 °C, washed with PBS and incubated with fluorescent-labeled secondary antibodies (Alexa Fluor) at 1:2000 dilution for 1 h at room temperature. Before mounting, the slides were washed with PBS and incubated for 5 min with 4'-6-diamidino-2-phenylindole (*DAPI*) for nuclear staining. The cells images were obtained using Olympus BX61 confocal microscope with appropriate fluorescent filter (at 60X magnification) and analyzed with ImageJ software.

Supplementary figure 3: Dose-response of TRPM3 with PS/PIP_2 and nifedipine.

Dose-dependent changes in open probability of TRPM3 activated with PS in the presence of 5 μM PIP_2 at 100 mV, left panel. Dose-dependent open probability of TRPM3 induced with nifedipine at 100 mV.