

## Description of Additional Supplementary Files

**File Name:** Supplementary Data 1

**Description:** Corresponding genes identified in the mouse genome from PROSITE (<http://prosite.expasy.org/>) using Tyr-X-X-(Leu/Ile)-X(6-12)-Tyr-X-X-(Leu/Ile) as the probe.

**File Name:** Supplementary Data 2

**Description:** mRNA top expressers in the TABLE 1 genes identified from NCBI GEO RNA-seq databases (<https://www.ncbi.nlm.nih.gov/geo/>). Their expression levels are ranked by abundance.

**File Name:** Supplementary Movie 1

**Description:** A Phagocytic cup enriched with Moesin and actin was reconstructed in 3D with Imaris 7.2.3. Moesin is pseudocolored green with 30% transparency for better viewing and actin is pseudocolored red.

**File Name:** Supplementary Movie 2

**Description:** Sub-cellular localization of PH-GFP in response to PIP2 sequestration by 0.1 or 10 mM Geneticin over a 40 mins time interval. Videos are shown at an 8 fps playback speed. Geneticin was added at t=0 mins.

**File Name:** Supplementary Movie 3

**Description:** An overall comparison of differences and similarities between PIP2 redistribution and FcR-based phagocytosis mechanisms.