## **Supporting Information**

**Supporting Information S1.** UV–vis spectra of [VO(chrysin)<sub>2</sub>EtOH]<sub>2</sub> (0.02 M) in DMSO solution (A) and [VO(chrysin)<sub>2</sub>EtOH]<sub>2</sub> (0.0001 M) in RPMI medium with 0,5% of DMSO (pH= 7.4) (B)

**Supporting Information S2.** List of up- and down-regulated proteins identified in the treatment with 25  $\mu$ M of [VO(chrysin)<sub>2</sub>EtOH]<sub>2</sub> during 3 h. The name, subcellular location and Cy5/Cy3 ratio values are given for each protein.

**Supporting Information S3.** List of up- and down-regulated proteins identified in the treatment with 25  $\mu$ M of [VO(chrysin)<sub>2</sub>EtOH]<sub>2</sub> during 6 h. The name, subcellular location and Cy5/Cy3 ratio values are given for each protein.

**Supporting Information S4.** List of up- and down-regulated proteins identified in the treatment with 100  $\mu$ M of [VO(chrysin)<sub>2</sub>EtOH]<sub>2</sub> during 6 h. The name, subcellular location and Cy5/Cy3 ratio values are given for each protein.

**Supporting Information S5.** Functional annotation of up-regulated proteins identified in the treatment with 25  $\mu$ M of [VO(chrysin)<sub>2</sub>EtOH]<sub>2</sub> during 3 h.

**Supporting Information S6.** Functional annotation of down-regulated proteins identified in the treatment with 25  $\mu$ M of [VO(chrysin)<sub>2</sub>EtOH]<sub>2</sub> during 6 h.

**Supporting Information S7.** Functional annotation of up-regulated proteins identified in the treatment with 25  $\mu$ M of [VO(chrysin)<sub>2</sub>EtOH]<sub>2</sub> during 6 h.

**Supporting Information S8.** Functional annotation of down-regulated proteins identified in the treatment with 100  $\mu$ M of [VO(chrysin)<sub>2</sub>EtOH]<sub>2</sub> during 6 h.

**Supporting Information S9.** Functional annotation of up-regulated proteins identified in the treatment with 100  $\mu$ M of [VO(chrysin)<sub>2</sub>EtOH]<sub>2</sub> during 6 h.

**Supporting Information S10.** List of vanadium compounds that up- and down-regulated cell signaling pathways identified in the literature.