| Sl. No. | Gene symbol | NCBI GENE ID | Sl. No. | Gene symbol | NCBI GENE ID |
|--------|-------------|--------------|--------|-------------|--------------|
| 1      | ABCD3       | 5825         | 19     | DAZAP2      | 9802         |
| 2      | AHCYL2      | 23382        | 20     | EIF3E       | 3646         |
| 3      | ARHGAP12    | 94134        | 21     | FAM32A      | 26017        |
| 4      | ARFIP2      | 23647        | 22     | FAR1        | 84188        |
| 5      | ANGEL2      | 90806        | 23     | FNIP1       | 96459        |
| 6      | ASB13       | 79754        | 24     | GHITM       | 27069        |
| 7      | ATP5B       | 506          | 25     | GLUL        | 2752         |
| 8      | AUTS2       | 26053        | 26     | GNL3L       | 54552        |
| 9      | BSDC1       | 55108        | 27     | HAX1        | 10456        |
| 10     | CCDC49      | 54883        | 28     | HIGD2A      | 192286       |
| 11     | CCDC109B    | 55013        | 29     | HSPA2       | 3306         |
| 12     | CCDC186     | 55088        | 30     | ITM2A       | 9452         |
| 13     | CPLX1       | 10815        | 31     | ITPR2       | 3709         |
| 14     | COPG1       | 22820        | 32     | KCNAB2      | 8514         |
| 15     | COX6C       | 1345         | 33     | LDOC1L      | 84247        |
| 16     | CNTN1       | 1272         | 34     | LMO4        | 8543         |
| 17     | CYP2E1      | 1571         | 35     | LZTS1       | 11178        |
| 18     | DAZAP2      | 9802         | 36     | MAP1B       | 4131         |
| 19     | DLGAP1      | 9229         | 37     | MAPKB1      | 23005        |
| 20     | EIF3E       | 3646         | 38     | MKRN1       | 23608        |
| 21     | DAZAP2      | 9802         | 39     | MRPL33      | 5825         |
| 22     | FAR1        | 84188        | 40     | MRPL48      | 23382        |
| 23     | FNIP1       | 96459        | 41     | MRPL49      | 55088        |
| 24     | FAM32A      | 26017        | 42     | NDN         | 1272         |
| 25     | GHITM       | 27069        | 43     | OMG         | 10815        |
| 26     | GLUL        | 2752         | 44     | PTGER2      | 53017        |
| 27     | GNL3L       | 54552        | 45     | PTGER4      | 22820        |
| 28     | HAX1        | 10456        | 46     | RAG2        | 1345         |
| 29     | HIGD2A      | 192286       | 47     | RAG2        | 9229         |
| 30     | HSPA2       | 3306         | 48     | RAG2        | 9229         |
| 31     | ITPR2       | 3709         | 49     | RAG2        | 9229         |
| 32     | KCNAB2      | 8514         | 50     | RAG2        | 9229         |
| 33     | LDOC1L      | 84247        | 51     | RAG2        | 9229         |
| 34     | LMO4        | 8543         | 52     | RAG2        | 9229         |
| 35     | LZTS1       | 11178        | 53     | RAG2        | 9229         |
| 36     | MAP1B       | 4131         | 54     | RAG2        | 9229         |
| 37     | MAPKB1      | 23005        | 55     | RAG2        | 9229         |
| 38     | MKRN1       | 23608        | 56     | RAG2        | 9229         |

Table S1. List of JEV NS4A interactors
**Figure Legends**

**Fig. S1: Cloning of JEV-NS4A for the Y2H screening.** (A) The JEV-NS4A cDNA was RT-PCR amplified and cloned in the pGem-T vector. The Colony-PCR using the JEV-NS4A primers identified the putative clones. (B) Restriction digestion of plasmid DNA from colony #10 with Sfi I confirming an insert release of JEV-NS4A of 447 bp. (C) The JEV-NS4A cDNA released from the colony #10 DNA was cloned in plasmid pBT3-N (bait). The Colony-PCR using the JEV-NS4A primers identified the putative clone. (D) Restriction digestion with Sfi I of the plasmid DNA from colony #3 and #9 from the pBT3-N cloning confirmed the desired clones. (E) The bait plasmid was transferred to the competent NMY51 strain of yeast (deficient in leucine, tryptophan, histidine, and adenine pathways). The prey plasmid was then transferred to the bait-containing yeast (SD-LW) and checked for expression of the markers by selecting on histidine and adenine deficient plates. (F) Pilot screen to confirm that the bait clone was not self-activating. (G) Library screen showing up the interactors on selective plates and the positive X-Gal assay. The plasmid DNA from the interaction positive clones was transferred to E. coli strain DH5a to amplify and used for DNA sequencing.

**Fig. S2.** Mock- and JEV-infected (MOI 1) Huh7 cells at 30 h pi were treated with bafilomycin for an additional 8 h. The cell lysates were subjected to Western blot analysis for the mitochondrial proteins PINK1 (left panel) and PARKIN (right panel). GAPDH was used as the loading control and JEV prM and NS3 were used as the infection marker. The respective band intensities relative to GAPDH are shown below each blot.

**Fig. S3.** Three weeks old C57BL/6 mice (n=4) were JEV or mock-infected by the 10^7 PFU of JEV injected intraperitoneal. The brain tissues were harvested 5 days later and prepared as lysates. The left panels show the Western blot analysis of indicated proteins in JEV-infected mouse brain lysate. The JEV capsid was used as the infection marker and GAPDH was used as the internal loading control. The right panel shows quantification of protein band intensities of mouse tissue from the Western blots.