**Philpot TCF4 mice RNA Extraction, Purification, and Sequencing.**

Brains collected from *Tcf4R579W/+*, *Tcf4△574-579/+*, *Tcf4Flox/+::Nestin-Cre*,*Tcf4Flox/+::Actin-Cre*, and littermate controls were dissected at either postnatal (P) day 0 to P2 or P60-P80. Brains were rapidly dissected, flash frozen in a dry ice and ethanol bath, and stored at -80°C. RNA was extracted from one (P60-P80 mice) or both (P0-P2) cerebral hemispheres using the RNeasy Plus kit (Qiagen) per manufacturer’s instructions with the following modifications. The frozen tissue was thawed on ice and then hand homogenized in 500µl of Buffer RLT+ on ice. The crude RNA lysates were diluted with additional Buffer RLT+ to a final volume of 2mL. For purification of RNA, 400µl of P60-P80 lysate or 200µl of P0-P2 lysate were used from the total RNA lysates (2mL). The crude RNA lysate was twice passed through the gDNA eliminator column, and the purification proceeded according to the manufacturer’s instructions (Qiagen). A 40µl aliquot of purified RNA was used for additional purification using the RNA Clean and Concentrator kit (Zymo). Briefly, the purified RNA was incubated with RNase-free DNase I (Zymo) for 15 minutes at room temperature. The digested RNA was then washed and cleaned on column per the manufacturer’s instructions. All tested samples had 260/280 and 260/230 ratios ≥ 2.0 measured using a NanoDrop (Thermo Scientific). All RNA samples were verified to have a RIN score ≥ 8.0 measured by the Agilent TapeStation 2000 (Agilent Technologies). Library construction, quality control, and RNA-sequencing were performed by Beijing Genomic Institute (BGI, Beijing, China) using the Illumina HiSeq4000 and single-end 50bp reads.