#### **Supplementary Figure legends**

#### Supplementary Figure S1. Mouse genotyping.

Shown in the figure is the genotype analysis of WT,  $AMPK\alpha 2^{-/-}$ , [*GFAP-tTA;TRE-SmoA1;*  $AMPK\alpha 2^{-/-}$ ] and [*GFAP-tTA;TRE-SmoA1*] mice.

# Supplementary Figure S2. Histopathological examination of a very large tumor in the [*GFAP-tTA;TRE-SMOA1*] mouse that survived beyond 200 days.

The histological analysis includes H&E staining as well as Ki67 (marker of proliferation) and NeuN (marker of neuronal differentiation) immunohistochemistry (magnification: 2X, 4X and 40X). Scale bars: 500  $\mu$ m (2X), 200  $\mu$ m (4X) or 25  $\mu$ m (40X).

Supplementary Figure S3. Histopathological examination of non-proliferative, non-neoplastic microscopic remnants of granular cell neurons in a one-year-old [*GFAP-tTA;TRE-SMOA1;AMPKa2*<sup>-/-</sup>] mouse.

The histological analysis includes H&E staining as well as Ki67 (marker of proliferation) and NeuN (marker of neuronal differentiation) immunohistochemistry (magnification: 4X and 40X). The different cell layers of the cerebellum, i.e. the molecular (ML), Purkinje cell (PC) and internal granular cell (IGL) layers are labeled in the 40X H&E picture. One example of remnant is labeled with a red arrow in the 40X pictures. Scale bars: 200  $\mu$ m (4X) or 25  $\mu$ m (40X).

#### Supplemetary Figure S1. (Zhang)



## Supplemetary Figure S2. (Zhang)



### Supplemetary Figure S3. (Zhang)

