



Supplementary Fig. S1-S5. Dysplastic gangliocytoma, cerebellum, cat.

Supplementary Fig. S1. The white matter (left side) is multifocally extensive rarefied and contains large numbers of gemistocytes (arrowheads) which have cytoplasmic immunolabeling for glial fibrillary acidic protein (GFAP). Neoplastic cells (arrows) are not labeled by GFAP. **Supplementary Fig. S2.** Luxol fast blue highlights marked loss of myelin in these affected areas of the molecular layer (right side). **Supplementary Fig. S3.** Neuronal nuclear antigen (NeuN) positively labels nuclei of internal granule cell neurons. Neoplastic cells displace granule layer (left side) and exhibit no labelling for NeuN. Inset: Magnification. **Supplementary Fig. S4.** Axonal immunolabeling by NF52 was maintained in the axons of dysplastic cells. **Supplementary Fig. S5.** Dysplastic cells feature axonal immunolabeling for NF312. **Supplementary Fig. S6.** Cerebrum, cat. Positive labelling by PTEN antibodies is seen in the cytoplasm and nuclei of neurons (arrows) and in endothelial cells (arrowheads).

Veterinary Pathology: Supplemental Materials
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Supplemental Table S1. Antibodies Used for Immunohistochemistry.

Antibody	Species	Clone	Dilution/ Incubation Time	Antigen Retrieval
GFAP (DAKO, Glostrup, Denmark)	Rabbit	Polyclonal	1:6000, 15 mins at 37°C	EDTA buffer, pH 9.0, 20min
NF-52 (Merck, Darmstadt, Germany)	Mouse	Monoclonal (N52)	1:5000, 15 mins at RT	EDTA buffer, pH 9.0, 20min
NF-312 (Abcam, Cambridge, UK)	Mouse	Monoclonal (SMI-312)	1:7000, 15 mins at RT	EDTA buffer, pH 9.0, 20min
NeuN (Merck, Darmstadt, Germany)	Mouse	Monoclonal (A60)	1:1000, 15 mins at 37°C	EDTA buffer, pH 9.0, 20min
PTEN, (Cell Signaling Technology, MA, USA)	Rabbit	Monoclonal (138G6)	1:100, overnight at 4°C	Citrate buffer pH 6.1, 10min

Abbreviations; GFAP, Glial fibrillary acidic protein; NF, Neurofilament; NeuN, neuronal nuclear protein; PTEN, Phosphatase and tensin homolog.