

**Online Table 1: HP-<sup>13</sup>C acquisition parameters**

Participant ID	Scan Type	Voxel Size (RL × AP × SI cm <sup>3</sup> )	Temporal Resolution (sec)	Injection-to-Scan Delay (sec)	Injection Rate (mL/s)	Patient Weight (lb, kg)	Dosage (mL/kg)	Maximum aSNR (Pyr, Lac, Bic)
P-01	EPI	1.5 × 1.5 × 1.5	3	5	1	118, 54	0.43	785, 243, 83
P-02	2D EPSI	2 × 2 × 2	3	5	2	141, 64	0.34	29,900, 5460, 3330
P-03	2D EPSI	2 × 2 × 2	3	2	3	104, 47	0.34	352,000, 72,000, 15,200
P-04	EPI	1.5 × 1.5 × 2	3	0	2	185, 84	0.43	936, 216, 75
P-05	EPI	1.5 × 1.5 × 1.5	3	0	2	107, 48	0.43	1070, 175, 64
P-06	2D EPSI	2 × 2 × 2	3	5	2	144, 65	0.34	4740, 522, 304

**Note:**—Pyr indicates pyruvate; Lac, lactate; Bic, bicarbonate; RL, right-left dimension; AP, anterior-posterior dimension; SI, superior-inferior dimension.

**Online Table 2: Characteristics of patients who completed imaging protocol**

Participant ID	Age at Dx (yr)	Age at HP-13C Imaging (yr)	Sex	Diagnosis	Treatment (Type of Therapy in Sequential Order and Whether On/Off Therapy at Time of 13C Injection)
P-01	9	10	M	Diffuse intrinsic pontine glioma	1. Radiation therapy (60 Gy) 2. CED of MTX110 <i>On therapy (CED)</i> 1. Radiation therapy (54 Gy) 2. Trametinib, everolimus <i>On therapy (trametinib, everolimus)</i> 1. Debulking surgery 2. Radiation therapy (55 Gy) 3. H3 2K27M-targeted vaccine 4. Panobinostat, dasatinib combination therapy 5. Nivolumab, bevacizumab combination therapy with reirradiation <i>On therapy (nivolumab, bevacizumab)</i> 1. Subtotal resection 2. Radiation therapy (54 Gy) <i>Off therapy</i>
P-02	12	13	M	Diffuse intrinsic pontine glioma	1. Near-total resection 2. Craniospinal radiation therapy (36 Gy); posterior fossa radiation therapy (55.8 Gy) 3. Chemotherapy on study ACNS0332; Arm B <i>Off therapy</i>
P-03	12	13	M	Diffuse intrinsic pontine glioma	1. Subtotal followed by near-total resection 2. Craniospinal radiation therapy (36 Gy); posterior fossa radiation therapy (55.8 Gy) 3. Multiagent chemotherapy <i>Off therapy</i>
P-04	16	17	M	Adamantinomatous craniopharyngioma, WHO grade I	
P-05	10	14	M	Medulloblastoma, WHO grade IV (WNT-, SHH-, CSF+)	
P-06	13	16	F	Pineoblastoma, WHO grade IV	

**Note:**—Dx indicates diagnosis; CED, convection-enhanced delivery; WHO, World Health Organization; WNT, WNT/Wingless gene family; SHH, sonic hedgehog gene; CSF, colony stimulating factor gene.