<table>
<thead>
<tr>
<th>Protocol</th>
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<th>Strata</th>
<th>Status</th>
<th>Neuroimaging Objective/Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBTC-001</td>
<td>A Pilot Study of Systemic and Intrathecal Chemotherapy followed by Conformal Radiation for Infants with Embryonal Intracranial Central Nervous System Tumors</td>
<td>None</td>
<td>Study completed</td>
<td>No correlative objective. Estimate PFS, pattern of failure. Central review of MRI scan at end of study</td>
</tr>
<tr>
<td>PBTC-002</td>
<td>A Phase I Study of SU5416 in Pediatric Patients With Recurrent or Progressive Poor Prognosis Brain Tumors</td>
<td>Stratum 1: Patients not on enzyme-inducing anticonvulsant drugs Stratum 2: Patients receiving enzyme-inducing anticonvulsant drugs</td>
<td>Study completed</td>
<td>To identify the signal characteristics and biologic correlates of tumors after SU5416 treatment.</td>
</tr>
<tr>
<td>PBTC-003</td>
<td>A Phase I Trial of Escalating Oral Doses of SCH 66336 in Pediatric Patients with Refractory or Recurrent Brain Tumors</td>
<td>None</td>
<td>Study completed</td>
<td>No correlative objective. MRI for response only. No central review.</td>
</tr>
<tr>
<td>PBTC-004</td>
<td>A Phase I Study of Intrathecal Spartaject™-Busulfan in Children with Neoplastic Meningitis</td>
<td>None</td>
<td>Study completed</td>
<td>No correlative objective. MRI for response only with central review</td>
</tr>
<tr>
<td>PBTC-005</td>
<td>A Phase I Trial of Temozolomide and O6-Benzylguanine in Pediatric Patients with Recurrent Brain Tumors</td>
<td>Stratum 1: patients previously not treated with RT or only focal RT Stratum 2: patients with prior craniospinal irradiation or myeloblastive therapy.</td>
<td>Study completed</td>
<td>No correlative objective. MRI for response only with central review</td>
</tr>
<tr>
<td>PBTC-006</td>
<td>A Phase I/II Trial of STI571 in Children with Newly Diagnosed Poor Prognosis Brainstem Gliomas and Recurrent Intracranial Malignant Gliomas</td>
<td>Stratum 1: newly diagnosed localized brainstem tumors Stratum 2A: recurrent intracranial malignant gliomas - not using EIAOD Stratum 2B: recurrent intracranial malignant gliomas - using EIAOD</td>
<td>Study completed</td>
<td>To develop exploratory data concerning surrogate endpoints of therapeutic activity, using physiological neuroimaging studies and correlative biological studies</td>
</tr>
<tr>
<td>PBTC-007</td>
<td>A Phase I/II Trial of ZD1839 (Iressa™) and Radiation in Pediatric Patients Newly Diagnosed with Brain Stem Tumors or Incompletely Resected Supratentorial Malignant Gliomas with Phase II Limited to Brain Stem Tumors</td>
<td>Stratum 1: newly diagnosed intrinsic brain stem glioma or incompletely resected supratentorial malignant gliomas not receiving enzyme-inducing anti-convulsant drugs Stratum 2: Incompletely resected supratentorial malignant gliomas receiving enzyme-inducing anti-convulsant drugs</td>
<td>Study completed</td>
<td>To compare hemodynamic MR parameters to metabolic FDG-PET scanning and correlate both with clinical response or progression in this population</td>
</tr>
<tr>
<td>PBTC-009</td>
<td>A Phase I Trial of GLIADEL® and O6-Benzylguanine in Pediatric Patients with Recurrent Malignant Gliomas</td>
<td>None</td>
<td>Study completed</td>
<td>MRI / MRS / MR perfusion &amp; diffusion for assessment of response and toxicity</td>
</tr>
</tbody>
</table>

*If neutropenia is the dose limiting toxicity, additional patients will be accrued allowing the use of G-CSF to establish whether higher doses of temozolomide can be administered with this form of hematological support (Stratum 1b &/or 2b)*
<table>
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</thead>
</table>
| PBTC-010 | A Phase II Study of Oxaliplatin in Children with Medulloblastoma, Supratentorial Primitive Neuroectodermal Tumors and Atypical Teratoid Rhabdoid Tumors after Failure of Initial Therapy | Stratum IA: medulloblastoma patients with measurable disease  
Stratum IB: medulloblastoma patients with only positive CSF cytology or with linear leptomeningeal disease;  
Stratum II: will include patients with supratentorial primitive neuroectodermal tumor (S-PNET) including pineoblastomas, and ependymoblastomas;  
Stratum III: patients with atypical teratoid rhabdoid tumors (ATRT). | Study completed | No correlative objective. MRI for response only with central review.                      |
| PBTC-011 | A Phase I/II Trial of Intracerebral IL13-PE38QQR Infusions in Pediatric Patients with Recurrent Malignant Glioma | No strata in Phase I | Study completed | No correlative objective. MRI for response only with central review.                      |
| PBTC-012 | A Phase I Study of Cilengitide (EMD 121974) in Children with Refractory Brain Tumors | No strata | Study completed | MRI, MRS, MR perfusion, PET for tumor blood flow, metabolic activity and volume.          |
| PBTC-013 | A Phase I/II Study of a Recombinant Chimeric Protein Composed of Transforming Growth Factor (TGF)-β and a Mutated Pseudomonas Exotoxin Termed PE38 (TP-38) in Pediatric Patients with Recurrent or Progressive Supratentorial High Grade Gliomas | No strata | Study completed | No correlative objective. MRI for response only with central review.                      |
| PBTC-014 | A Phase I/II Trial of R115777 and Radiation in Pediatric Patients Newly Diagnosed Non-disseminated Intrinsic Diffuse Brainstem Gliomas | No strata | Study completed | To characterize radiographic changes using MRI, MRS, perfusion and diffusion imaging and PET scans. |
| PBTC-015 | A Phase II Trial of O6-Benzylguanine and Temozolomide in Pediatric Patients with Recurrent or Progressive High-Grad Gliomas and Recurrent or Progressive Brainstem Tumors | Stratification  
Patients will be stratified according to tumor type:  
Stratum A: Recurrent or progressive high grade gliomas  
Stratum B: Recurrent or progressive brain stem tumors | Study completed | To evaluate changes in MR spectroscopic patterns, MR diffusion and MR perfusion in children with refractory or recurrent high-grade gliomas or brainstem gliomas who are treated with the combination of O6-BG and TMZ. |
| PBTC-016 | A Phase I, Molecular Biology and Phase II Study of Lapatinib (GW572016) in Pediatric Patients with Recurrent or Refractory Medulloblastoma, Malignant Glioma or Ependymoma | Phase I:  
Stratum 1: those who are not receiving steroids;  
Stratum 2: those who are receiving steroids; | Study completed | To characterize radiographic changes using MRI, MRS, perfusion and diffusion imaging and PET scans. |
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<tr>
<td>PBTC-017</td>
<td>A Phase I Study of CLORETAZINE™ (VNP40101M) in Children with Recurrent, Progressive or Refractory Primary Brain Tumors</td>
<td>Stratum 1: no prior XRT or focal XRT only and/or &lt; 2 prior myelosuppressive chemotherapy regimens; Stratum 2: prior craniospinal XRT, high-dose chemotherapy, and/or &gt; 2 prior myelosuppressive chemotherapy regimens</td>
<td>Study completed</td>
<td>No correlative component. Central review for response based on the first MRI scan obtained after 2 courses of chemotherapy.</td>
</tr>
<tr>
<td>PBTC-018</td>
<td>A Phase I Trial of CC-5013 in Pediatric Patients with Recurrent or Refractory Primary CNS Tumors</td>
<td>No strata</td>
<td>Study completed</td>
<td>1. To evaluate changes in circulating endothelial cells, circulating endothelial cell precursors, and angiogenic modulators and correlate these changes with changes in MR perfusion and clinical outcome. 2. To evaluate changes in MR spectroscopy, MR perfusion and diffusion during treatment.</td>
</tr>
<tr>
<td>PBTC-019</td>
<td>A Phase I Pharmacokinetic Optimal Dosing Study of Intrathecal Topotecan for Children with Neoplastic Meningitis</td>
<td>No strata</td>
<td>Study completed</td>
<td>MRI central review for treatment effects and response at study completion.</td>
</tr>
<tr>
<td>PBTC-020</td>
<td>A Phase I Clinical Trial of AZD2171 in Children with Recurrent or Progressive Central Nervous System (CNS) Tumors</td>
<td>Stratum 1: Those who are not receiving enzyme inducing anticonvulsant drugs (EIACD)  Stratum 2: Stratum 1: Those who are receiving enzyme inducing anticonvulsant drugs (EIACD)</td>
<td>Study completed</td>
<td>1. To explore correlations in changes in CECs, CEPs and angiogenic modulators with changes in MR perfusion. 2. To obtain preliminary evidence of biologic activity of AZD2171 by evaluating alterations in tissue perfusion, tumor blood flow and metabolic activity using MR perfusion and diffusion imaging, MRS as well as PET analysis and correlating these findings with changes in tumor size by standard MRI. 3. To continue the PBTC investigation of imaging assessments of antiangiogenesis effects by combining data from this trial with other PBTC trials of similar agents.</td>
</tr>
<tr>
<td>PBTC-021</td>
<td>A Phase I Trial of Capecitabine Rapidly Disintegrating Tablets and Concomitant Radiation Therapy in Children with Newly Diagnosed Brainstem Gliomas and High Grade Gliomas</td>
<td>No strata</td>
<td>Study completed</td>
<td>To characterize radiographic changes in non-disseminated, newly diagnosed intrinsic brainstem gliomas and high-grade gliomas treated with radiation and capecitabine using MRI, MRS, perfusion and diffusion imaging and PET scans</td>
</tr>
<tr>
<td>Protocol</td>
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<tr>
<td>PBTC-022</td>
<td>Phase II study of Bevacizumab plus Irinotecan (Camptosar&lt;sup&gt;TM&lt;/sup&gt;) in Children with Recurrent, Progressive, or Refractory Malignant Gliomas, Diffuse/Intrinsic Brain Stem Gliomas, Medulloblastomas, Ependymomas and Low Grade Gliomas</td>
<td>Stratum A: Recurrent, progressive or refractory high-grade gliomas Stratum B: Recurrent, progressive or refractory Intrinsic brain stem tumors Stratum C: Recurrent or progressive Medulloblastomas Stratum D: Recurrent or progressive Ependymomas Stratum E: Recurrent low grade gliomas</td>
<td>Study completed</td>
<td>1. To document changes in MR perfusion and diffusion scans obtained within 24-48 hours following the 2nd dose of Bevacizumab as compared to baseline and correlate with response. 2. To correlate functional changes in tumor with responses to treatment with Bevacizumab + irinotecan using MR perfusion/diffusion imaging, and Fluoro-deoxyglucose (FDG) positron emission tomography (PET). 3. To estimate vascular endothelial growth factor receptor-2 (VEGF-R2) expression in peripheral blood mononuclear cells (PBMC) prior to treatment and its down-regulation following two doses of single-agent Bevacizumab and correlate this finding with permeability changes in the tumor on MR perfusion imaging obtained 24-48 hours following the 2nd dose Bevacizumab</td>
</tr>
<tr>
<td>PBTC-023</td>
<td>Phase I and Pharmacokinetic Study of Enzastaurin (LY317615) in Children and Adolescents with Refractory Primary CNS Tumors</td>
<td>No strata</td>
<td>Study completed</td>
<td>To explore changes in correlative magnetic resonance imaging in children receiving enzastaurin. Specifically to evaluate changes in MR perfusion and diffusion scans obtained within 15 ± 2 days after initiation of enzastaurin therapy as compared to baseline and to correlate these changes with clinical outcome, as applicable. 1. Results of imaging studies will be combined across similar PBTC protocols to increase the power for detecting correlations among scans and with outcome.</td>
</tr>
<tr>
<td>PBTC-024</td>
<td>A Phase I Study of MK-0752 in Pediatric Patients with Recurrent or Refractory CNS Malignancies</td>
<td>No strata</td>
<td>Study completed</td>
<td>To explore changes in correlative magnetic resonance imaging in children receiving MK-0752. Volumetric MR imaging findings may be combined across similar PBTC protocols to increase the power for detecting correlations among scans and associations with outcome.</td>
</tr>
<tr>
<td>PBTC-025</td>
<td>A Phase I Pharmacokinetic and Safety Study in Children with Recurrent or Refractory Medulloblastoma to Identify a Pharmacokinetic Based Dose for GDC-0449</td>
<td>No strata</td>
<td>Study completed</td>
<td>Central review of MR knee, standard MR brain and spine.</td>
</tr>
<tr>
<td>Protocol</td>
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<tr>
<td>PBTC-025B</td>
<td>A Phase I Pharmacokinetic and Safety Study in Children with Recurrent or Refractory Medulloblastoma to Identify a Pharmacokinetic Based Dose for GDC-0449</td>
<td>No strata</td>
<td>Open to accrual</td>
<td>Central review of neuro-imaging studies by neuro-radiologists will be conducted to confirm response only in patients reported by the treating site to have experienced an objective response. MRI of the Brain and spine with and without contrast (brain) and post contrast (spine) will be performed.</td>
</tr>
<tr>
<td>PBTC-026</td>
<td>A Feasibility Study of SAHA combined with Isotretinoin and Chemotherapy in Infants with Embryonal Tumors of the Central Nervous System</td>
<td>No strata</td>
<td>Open to accrual</td>
<td>To estimate the preliminary response rate of this approach in patients with measurable residual disease (primary site and/or metastatic sites. Central review of standard MR brain and spine.</td>
</tr>
<tr>
<td>PBTC-027</td>
<td>A Phase I Study of ABT-888, an Oral Inhibitor of Poly(ADP-ribose) Polymerase and Temozolomide in Children with Recurrent/Refractory CNS Tumors</td>
<td>No strata</td>
<td>Study completed</td>
<td>No correlative objective. MR for response only.</td>
</tr>
<tr>
<td>PBTC-029</td>
<td>Phase I and Pharmacokinetic Study of AZD6244 for Recurrent or Refractory Pediatric Low Grade Glioma</td>
<td>No strata</td>
<td>Open to accrual</td>
<td>Central review of MR imaging studies. To assess diffusion imaging contributions to tumor behavior (type, grade) and response to therapy.</td>
</tr>
<tr>
<td>PBTC-029B</td>
<td>A Phase I and Phase II Study of AZD6244 for Recurrent or Refractory Pediatric Low Grade Glioma</td>
<td>Stratum 1: Patients with non NF-1 associated progressive, recurrent or refractory pilocytic astrocytoma with pre-trial tumor material available and with a BRAF aberration excluding patients with optic pathway glioma. Stratum 2: Patients with non NF-1 associated progressive, recurrent or refractory pilocytic astrocytoma with pre-trial tumor material available and without BRAF aberration excluding patients with optic pathway glioma. Stratum 3: Patients with NF-1 associated progressive, recurrent or refractory low grade glioma (WHO I or II), with or without tissue Stratum 4: Patients with non-NF1 associated progressive, recurrent or refractory optic pathway glioma (OPG) with or without tissue available for BRAF evaluation. Stratum 5: Patients with non NF-1 associated progressive, recurrent or refractory low grade glioma (other than pilocytic astrocytoma or optic pathway glioma) with a BRAF aberration.</td>
<td>Open</td>
<td>To describe MRI characteristics of the tumors before and after treatment to determine if there is an early diffusion indicator of response.</td>
</tr>
<tr>
<td>PBTC-030</td>
<td>A Phase II Trial of Capecitabine Rapidly Disintegrating Tablets and Concomitant Radiation Therapy in Children with Newly Diagnosed Brainstem Gliomas</td>
<td>No strata</td>
<td>Study completed</td>
<td>To describe and explore changes in diffusion tensor imaging variables in brainstem gliomas in response to therapy and prior to progression.</td>
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<tr>
<td>PBTC-031</td>
<td>Phase I and Pharmacokinetic Trial of PTC299 in Pediatric Patients with Refractory or Recurrent CNS Tumors</td>
<td>No strata</td>
<td>Open to accrual</td>
<td>To obtain preliminary evidence of biologic activity of PTC299 by using MR diffusion to assess tumor cellularity.</td>
</tr>
</tbody>
</table>
| PBTC-032 | A Phase II Clinical Trial Evaluating the Efficacy and Safety of GDC-0449 in Children with Recurrent or Refractory Medulloblastoma | Strata A: Patients without evidence of activation of Hedgehog signaling pathway  
Strata B: Patients with evidence of activation of Hedgehog signaling pathway | Open to accrual | MR of the knee: To assess for side effects of this drug on growth cartilage  
MR of brain/spine: Central review of MR scans of brain and spine will be performed to confirm sustained responses and other clinical events as may be needed. |
<p>| PBTC-033 | A Phase I/II Study of ABT-888, an Oral Poly (ADP-ribose) Polymerase Inhibitor, and Concurrent Radiation Therapy, Followed by ABT-888 and Temozolomide, in Children with Newly Diagnosed Diffuse Pontine Gliomas (DIPG) | No strata | Open | To explore the quantitative MR measures of relative cerebral blood volume (rCBV), vascular permeability (Ktrans, vp, and ve values), and apparent diffusion coefficient (ADC) within the first six months of initiating protocol treatment to correlate with disease outcome and determine whether such metrics differentiate patients with pseudoprogression from those with true early progressive disease. |</p>
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<tr>
<td>PBTC-036</td>
<td>A Molecular Biology and Phase II Study of Imetelstat (GRN163L) in Children with Recurrent High-Grade Glioma, Ependymoma, Medulloblastoma/Primitive Neuroectodermal Tumor and Diffuse Intrinsic Pontine Glioma</td>
<td>No strata</td>
<td>Open</td>
<td>To assess changes in tumor size, enhancement, and diffusion characteristics.</td>
</tr>
<tr>
<td>PBTC-037</td>
<td>A phase I study of intratumoral/peritumoral herpes simplex virus-1 mutant HSV1716 in patients with refractory or recurrent high grade gliomas (HGG)</td>
<td>No strata</td>
<td>Open</td>
<td>1. To evaluate changes in tumor enhancement, quantitative MR measures of tumor perfusion (relative cerebral blood volume (rCBV), ktrans, Vp and Ve values and apparent diffusion coefficient (ADC) in response to HSV1716 injection  2. To evaluate changes in FDG-PET uptake in response to HSV1716 injection.  3. To evaluate changes in tumor choline values using MR spectroscopy in response to HSV1716 injection and further delineate from progressive disease versus pseudo-progression post therapy.</td>
</tr>
<tr>
<td>PBTC-039</td>
<td>A Phase II study of Peginterferon alfa-2b (PEGIntron) for pediatric patients with unresectable or recurrent craniopharyngioma</td>
<td>Stratum 1: Patients with progressive unresectable or recurrent craniopharyngiomas treated with surgery alone who have not received radiation therapy. Patients with unresectable craniopharyngiomas (i.e., residual measurable disease following surgical resection) will be enrolled at the time of progression  Stratum 2: Patients with progressive or recurrent craniopharyngiomas following radiation therapy.</td>
<td>Open</td>
<td>To compare the protocol specific disease assessment criteria to MacDonald criteria during the first year of treatment in stratum I and at the time of objective response and progressive disease in both strata.</td>
</tr>
<tr>
<td>PBTC-041</td>
<td>A Phase I Trial of p28 (NSC745104), a Non-HDM2 mediated peptide inhibitor of p53 ubiquitination in pediatric patients with recurrent or progressive CNS tumors</td>
<td>No strata</td>
<td>Open</td>
<td>No correlative objective. MR for response only.</td>
</tr>
<tr>
<td>PBTC-042</td>
<td>PBTC-042 Phase I study of CDK 4-6 inhibitor PD-0332991 in children with recurrent, progressive or refractory central nervous system tumors</td>
<td>No Strata</td>
<td>Open</td>
<td>No correlative objective. MR for response only.</td>
</tr>
<tr>
<td>PBTC-043</td>
<td>A Phase I Trial of Pomalidomide for children with recurrent, progressive or refractory CNS tumors</td>
<td>No strata</td>
<td>Open</td>
<td>No correlative response MR for response only</td>
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| PBTC-045 | A Safety and Preliminary Efficacy trial of MK-3475 (pembrolizumab; anti-PD-1) in Children with recurrent, progressive or refractory high-grade gliomas (HGG) and DIPGs. | Stratum A: patients with progressive, recurrent or refractory DIPGs Stratum B: patients with progressive, recurrent or refractory non-brainstem HGGs. | Open | 1. To examine the ability of quantitative MR spectroscopy and diffusion/weighted imaging/ADC mapping to provide early assessment of tumor behavior and specifically distinguish pseudoprogression from true progression 2. To explore the use of serial MR permeability (DCE) and MR perfusion (DSC) to determine if elevated rCBV and ktrans can distinguish pseudoprogression from true progression in tumors treated on this protocol |
## Table 8: PBTC Protocols [001 – 013]

<table>
<thead>
<tr>
<th>Protocol</th>
<th>Trial</th>
<th>MR Brain</th>
<th>MR Diffusion</th>
<th>MR Perfusion</th>
<th>MR Spectroscopy</th>
<th>Cisternogram</th>
<th>MR Spine</th>
<th>Bone Scan</th>
<th>PET</th>
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<tr>
<td>PBTC-002</td>
<td>A Phase I Study of SU5416 in Pediatric Patients With Recurrent or Progressive Poor Prognosis Brain Tumors</td>
<td>+</td>
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<tr>
<td>PBTC-003</td>
<td>A Phase I Trial of Escalating Oral Doses of SCH 66336 in Pediatric Patients with Refractory or Recurrent Brain Tumors</td>
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<tr>
<td>PBTC-004</td>
<td>A Phase I Study of Intrathecal SpartajectTM-Busulfan in Children with Neoplastic Meningitis</td>
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<tr>
<td>PBTC-005</td>
<td>A Phase I Trial of Temozolomide and O6-Benzylguanine in Pediatric Patients with Recurrent Brain Tumors</td>
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<tr>
<td>PBTC-006</td>
<td>A Phase I/II Trial of STI571 in Children with Newly Diagnosed Poor Prognosis Brainstem Gliomas and Recurrent Intracranial Malignant Gliomas</td>
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<tr>
<td>PBTC-007</td>
<td>A Phase I/II Trial of ZD1839 (Iressa™) and Radiation in Pediatric Patients Newly Diagnosed with Brain Stem Tumors or Incompletely Resected Supratentorial Malignant Gliomas with Phase II limited to Brain Stem Tumors</td>
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<tr>
<td>PBTC-009</td>
<td>A Phase I Trial of GLIADEL® and O6-Benzylguanine in Pediatric Patients with Recurrent Malignant Gliomas</td>
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<td>A Phase II Study of Oxaliplatin in Children with Recurrent or Refractory Medulloblastoma, Supratentorial Primitive Neuroectodermal Tumors and Atypical Teratoid Rhabdoid Tumors</td>
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<tr>
<td>PBTC-011</td>
<td>A Phase I/II Trial of Intracerebral IL13-PE38QQR Infusions in Pediatric Patients with Recurrent Malignant Glioma</td>
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<tr>
<td>PBTC-012</td>
<td>A Phase I Study of Cilengitide (EMD 121974) in Children with Refractory Brain Tumors</td>
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<tr>
<td>PBTC-013</td>
<td>A Phase I/II Study of a Recombinant Chimeric Protein Composed of Transforming Growth Factor (TGF)-a and a Mutated Form of the Pseudomonas Exotoxin Termed PE38 (TP-38) in Pediatric Patients with Recurrent or Progressive Supratentorial High Grade Gliomas</td>
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<td>PBTC-014</td>
<td>A Phase I/II Trial of R115777 and Radiation in Pediatric Patients Newly Diagnosed Non-disseminated Intrinsic Diffuse Brainstem Gliomas</td>
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<td>PBTC-015</td>
<td>A Phase II Trial of 06-Benzylguanine and Temozolomide in Pediatric Patients with Recurrent or Progressive High-Grad Gliomas and Recurrent / Progressive Brainstem Tumors</td>
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<td>PBTC-016</td>
<td>A Phase I, Molecular Biology and Phase II Study of Lapatinib (GW572016) in Pediatric Patients with Recurrent or Refractory Medulloblastoma, Malignant Glioma or Ependymoma</td>
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<td>PBTC-017</td>
<td>A Phase I Study of CLORETAZINE™ (VNP40101M) in Children with Recurrent, Progressive or Refractory Primary Brain Tumors</td>
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<td>PBTC-019</td>
<td>A Phase I Pharmacokinetic Optimal Dosing Study of Intrathecal Topotecan for Children with Neoplastic Meningitis</td>
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<td>PBTC-020</td>
<td>A Phase 1 Clinical Trial of AZD2171 in children with Recurrent or Progressive Central Nervous System (CNS) Tumors</td>
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<td>PBTC-021</td>
<td>A Phase I Trial of Capecitabine Rapidly Disintegrating Tablets and Concomitant Radiation Therapy in Children with Newly Diagnosed Brainstem Gliomas and High Grade Gliomas</td>
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<td>PBTC-022</td>
<td>Phase II study of Bevacizumab plus Irinotecan (Camptosar™) in Children with Recurrent, Progressive, or Refractory Malignant Gliomas, Diffuse/Intrinsic Brain Stem Gliomas, Medulloblastomas, Ependymomas and Low Grade Gliomas</td>
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<td>PBTC-023</td>
<td>A Phase I and Pharmacokinetic Study of Enzastaurin (LY317615) in Children and Adolescents with Refractory Primary CNS Tumors</td>
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<td>PBTC-024</td>
<td>A Phase I Study of MK-0752 in Pediatric Patients with Recurrent or Refractory CNS Malignancies</td>
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<td>A Phase I Pharmacokinetic and Safety Study in Children with Recurrent or Refractory Medulloblastoma to Identify a Pharmacokinetic Based Dose for GDC-0449</td>
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<td>PBTC-025B</td>
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<td>PBTC-026</td>
<td>A Feasibility Study of SAHA combined with Isotretinoin and Chemotherapy in Infants with Embryonal Tumors of the Central Nervous System</td>
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<td>PBTC-027</td>
<td>A Phase I Study of ABT-888, an Oral Inhibitor of Poly(ADP-ribose) Polymerase and Temozolomide in Children with Recurrent/Refractory CNS Tumors</td>
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<td>PBTC-029</td>
<td>A Phase I and Pharmacokinetic Study of AZD6244 for Recurrent or Refractory Pediatric Low Grade Glioma</td>
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<td>PBTC-029B</td>
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<td>PBTC-030</td>
<td>A Phase II Trial of Capecitabine Rapidly Disintegrating Tablets and Concomitant Radiation Therapy in Children with Newly Diagnosed Brainstem Gliomas</td>
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<td>PBTC-031</td>
<td>A Phase I and Pharmacokinetic Trial of PTC299 in Pediatric Patients with Refractory or Recurrent CNS Tumors</td>
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<td>PBTC-032</td>
<td>A Phase II Clinical Trial Evaluating the Efficacy and Safety of GDC-0449 in Children with Recurrent or Refractory Medulloblastoma</td>
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<td>PBTC-033</td>
<td>A Phase I/II Study of ABT-888, an Oral Poly (ADP-ribose) Polymerase Inhibitor, and Concurrent Radiation Therapy, Followed by ABT-888 and Temozolomide, in Children with Newly Diagnosed Diffuse Pontine Gliomas (DIPG)</td>
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Table 8: PBTC Protocols [036]

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<th>Protocol</th>
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<th>MR Diffusion</th>
<th>MR Perfusion</th>
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<th>Cisternogram</th>
<th>MR Spine</th>
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<td>PBTC-036</td>
<td>A Molecular Biology and Phase II Study of Imetelstat (GRN163L) in Children with Recurrent High-Grade Glioma, Ependymoma, Medulloblastoma/Primitive Neuroectodermal Tumor and Diffuse Intrinsic Pontine Glioma</td>
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<td>PBTC-037</td>
<td>A phase I study of intratumoral/peritumoral herpes simplex virus-1 mutant HSV1716 in patients with refractory or recurrent high grade gliomas (HGG)</td>
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<td>PBTC-039</td>
<td>A Phase II study of Peginterferon alfa-2b (PEGIntron) for pediatric patients with unresectable or recurrent craniopharyngioma</td>
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<td>PBTC-041</td>
<td>A Phase I Trial of p28 (NSC745104), a Non-HDM2 mediated peptide inhibitor of p53 ubiquitination in pediatric patients with recurrent or progressive CNS tumors</td>
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<td>PBTC-042</td>
<td>Phase I study of CDK 4-6 inhibitor PD-0332991 in children with recurrent, progressive or refractory central nervous system tumors.</td>
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<td>PBTC-043</td>
<td>A Phase I Trial of Pomalidomide for children with recurrent, progressive or refractory CNS tumors.</td>
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<td>PBTC-045</td>
<td>A Safety and Preliminary Efficacy trial of MK-3475 (pembrolizumab; anti-PD-1) in Children with recurrent, progressive or refractory high-grade gliomas (HGG) and DIFGs</td>
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