Primary Objectives
1. To evaluate the safety and tolerability of sonodynamic therapy (SDT) in DIPG subjects to generate data that will aid in the design of a larger Phase 2b trial.
2. To determine the maximum tolerated dose (MTD) or recommended Phase 2 dose (RP2D) of MR-Guided Focused Ultrasound (MRgFUS) energy in combination with intravenous aminolevulinic acid (ALA, SONALA-001) in subjects with DIPG.

Secondary Objectives Include
1. Preliminary efficacy assessments, including objective response rate (ORR; RAPNO), progression-free survival (PFS), duration of response (DOR), and overall survival (OS).
2. The pharmacokinetics (PK) of ALA and Protoporphyrin IX (PpIX) following intravenous dosing with SONALA-001.
3. To evaluate the mechanical performance of Exablate 4000 Type-2 device.
4. To evaluate radiographic evidence of tumor physiological changes associated with SDT.

Key Inclusion Criteria (See clinicaltrials.gov listing for full inclusion criteria)
1. Newly diagnosed, radiographically typical DIPG, defined as a tumor with a pontine epicenter and diffuse involvement of more than 2/3 of the pons and without evidence of dissemination, are eligible with or without histologic confirmation
   • Subjects with pontine lesions that do not meet radiographic criteria will be eligible if there is histologic confirmation of DIPG
   • Subjects may be asked to agree to provide access to previously obtained biopsy results
2. Prior treatment consisting of a minimum of 54 Gy standard focal radiotherapy administered over 42-49 days
3. Must be ≥ 4 weeks and ≤ 24 weeks post radiotherapy and must have recovered from acute effects to CTCAE Grade 1 or baseline prior to study treatment day
4. Must have stable to improved imaging by RAPNO criteria and be on a stable to decreasing dose of steroids (maximum dexamethasone of 1 mg/m²/day) prior to study treatment day, as obtained during the Screening period
5. Minimum of 5 years of age. Younger than 5 years of age may be eligible.
6. A minimum head circumference of 52 cm. Subjects with a minimum head circumference of 52 cm, younger than 5 years old, may be eligible after discussion with the medical monitor
7. Karnofsky Performance Status (KPS for > 16 years of age) or Lansky Performance Score (LPS for ≤ 16 years of age) assessed within 14 days of Visit 1 must be ≥ 50%
8. Subjects must have adequate organ, marrow and cardiac function

Key Exclusion Criteria (See clinicaltrials.gov listing for full exclusion criteria)
1. Evidence of progressive disease by radiologic criteria (RAPNO)
2. Increasing steroid dose prior to study treatment day
3. Diagnosis of porphyria
4. Hypersensitivity against porphyrins
5. Prior or concurrent therapy with any other anticancer (including radiotherapy) or investigational drug or other investigational intervention.
   • Exception: as relates to Inclusion criteria 2 and 3
6. Significant acute deterioration in neurologic status within 7 days prior to study treatment day, in the opinion of the investigator
7. Inability to undergo MRI (e.g., presence of a pacemaker)