RAFAEL Pharmaceuticals, Inc.
"To Save A Life Is To Save A Universe"

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CPI-613® (devimistat):

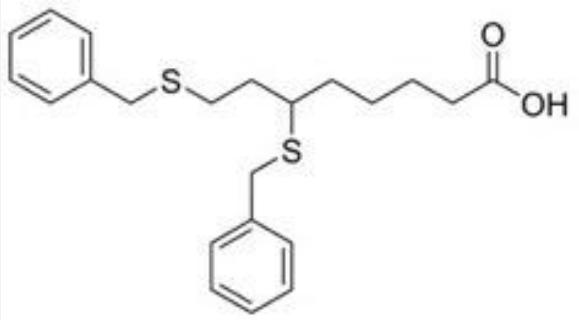
A First-in-Class Therapeutic Agent Targeting Cancer Cell Metabolism

What is CPI-613® (devimistat)?

- CPI-613® (devimistat) is a **first-in-class investigational small-molecule** (lipoate analog)
- In **nonclinical studies** (including GLP Tox studies), devimistat has **exhibited excellent safety and anticancer activity**
- Devimistat was clinically investigated in multiple hematological malignancies and solid tumors and exhibited a very **good signal of efficacy**
- Devimistat was granted '**Orphan Drug Designation**' by the U.S. FDA for pancreatic cancer, acute myeloid leukemia (AML), myelodysplastic syndrome (MDS), peripheral T-cell lymphoma (PTCL), Burkitt lymphoma and soft tissue sarcoma. Devimistat was granted 'Orphan Drug Designation' by EMA for pancreatic cancer and AML
- Devimistat was granted '**Fast Track Designation**' by the U.S. FDA for pancreatic cancer and AML
- Devimistat has IP **protection until 2028 and potentially beyond** across U.S., Canada, EU, Israel, Australia, and major markets of Asia (China, Hong Kong, Japan, South Korea, Taiwan)

CPI-613® (devimistat): Clinical Trials

- **20** ongoing or completed **clinical trials** to date**.** 6 ongoing trials and 4 upcoming trials in solid tumors and hematological malignancies.
- Over **750 patients** have received one or more doses of devimistat. It was well tolerated, and the demonstrated a very good signal of **efficacy with excellent response rate** and **survival statistics** in several tumor types.
- In early-stage clinical trials, for **pancreatic cancer**, devimistat in combination with modified FOLFIRINOX exhibited **19.9 months OS, 9.9 months PFS** and **61% ORR.** And for **AML** in patients 50 years and above**,** devimistat in combination with high dose cytarabine and mitoxantrone exhibited **10.4 months OS** and **52% ORR.**
- In both these trials, the **efficacy of devimistat combinations** were substantially **higher compared to a historical cohort of current standard of care**
- **2 Ongoing Phase 3 pivotal trials**
- **AVENGER500®**: This **Pancreatic Cancer** trial completed target enrollment of 500 patients in August 2020 and Rafael is expecting data readout of this study in 4Q 2021
- **ARMADA2000**: This **AML** trial already crossed enrollment of 150 patients and Rafael is expecting the first interim analysis of this study, as well as a futility analysis by second half of 2021
- **Other ongoing clinical trials** include **those in** patients with **locally advanced pancreatic cancer, relapsed or refractory Burkitt lymphoma/leukemia or high-grade B-cell lymphoma and advanced unresectable biliary tract cancer**



CPI-613® (DEVIMISTAT): MECHANISM OF ACTION

- CPI-613® (devimistat) is an analog of normally transient, acylated catalytic intermediates of the enzyme cofactor lipoate
- CPI-613® (devimistat) tumor selectivity is enhanced by tumor-drug retention
- CPI-613® (devimistat) turns off the mitochondrial tricarboxylic acid (TCA) cycle in cancer cells
- CPI-613® (devimistat) induces mitochondrial stress by activating a redox feedback loop
- CPI-613® (devimistat) induces metabolic stress leading to apoptotic and necrotic cancer cell death