About Volasertib

Volasertib, an investigational inhibitor of Polo-like kinase (Plk), is currently being evaluated in clinical trials for various solid tumors and hematological cancers such as acute myeloid leukemia (AML).

Volasertib Mode of Action

Volasertib inhibits enzymes called Plk. Plk1 is the best characterized kinase of the Plk family and is known to be over-expressed in a wide variety of tumors and associated with aggressive tumor growth and a poor prognosis in many cancers.

Plk1 regulates cell division (mitosis). This inhibition can result in prolonged cell cycle arrest, ultimately leading to cell death (apoptosis). The over-expression of Plks in human tumors, but not in healthy, non-dividing cells, makes them an attractive target to evaluate for cancer drug development.

Acute Myeloid Leukemia (AML)

AML is an aggressive cancer of the bone marrow and blood. Based on Phase II clinical findings observed to date, volasertib moved into Phase III development for patients with a certain type of AML in January 2013.

Development Status

Volasertib is an investigational compound that is not approved by the U.S. Food and Drug Administration (FDA); its safety and efficacy have not been established.

In 2013, the FDA granted Breakthrough Therapy designation to volasertib, which is a process, established by the FDA in 2012 to facilitate and expedite the development and review of drugs for serious or life-threatening conditions.

In 2014, the FDA and European Commission (EC) granted Orphan Drug Designation to volasertib for AML. In both the U.S. and EU, Orphan Drug Designation is a status given to investigational compounds intended to treat a rare disease or condition that has limited treatment options.

- **POLO-AML-2; Clinical Trial Identifier NCT01721876**
  *Ongoing Phase III trial* assessing the efficacy and safety of volasertib in combination with low-dose cytarabine (LDAC), compared to placebo in combination with LDAC, as a potential treatment regimen for patients aged 65 or older with previously untreated AML, ineligible for intensive remission induction therapy.

- **Clinical Trial Identifier NCT00804856**
  *Completed Phase I a dose-escalation trial* investigating volasertib as monotherapy and in combination with LDAC in patients with relapsed/refractory AML, ineligible for intensive treatment.

  *Ongoing Phase IIa trial* investigating volasertib (at MTD) in combination with LDAC versus LDAC monotherapy in patients with previously untreated AML, ineligible for intensive treatment.
- Clinical Trial Identifier NCT01662505
  *Ongoing Phase I trial* investigating volasertib in Japanese patients with AML.

In addition to AML, volasertib is also being investigated in clinical trials for non-small cell lung cancer, ovarian cancer, myelodysplastic syndrome (MDS) and chronic myelomonocytic leukemia (CMML). More information is available on ClinicalTrials.gov.

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