Cell penetrating single domain antibody (sdAb) SBT-100 binds KRAS & inhibits growth of human cancers with KRAS activating mutations.

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ABSTRACT

KRAS: Role in Cancer

RAS family: H-RAS, M-RAS, KRAS. KRAS, a family of proteins commonly mutated in cancer, is one of the most desirable drug targets in the pharmaceutical industry. Ras proteins play a role in about 30% of all human cancers. 95% Pancreatic Adenocarcinoma (KRAS), 95% Brain Glioblastomas (KRAS), 45% Colorectal (KRAS), 35% Lung Adenocarcinomas (KRAS), 15% Acute Myeloid Leukemia (KRAS), 15% Melanoma (KRAS), 10% Bladder (KRAS).

SBT-100: Camelid-Derived, Single Domain Antibody (sdAb)

SDBT-100 SBT-100 bounds KRAS & inhibits growth of human cancers with KRAS activating mutations.

Affinity Binding of SBT-100 sdAb in Bliaocyte

SBT-100 Binding in the Nucleus & Cytoplasm

SBT-100 Intracellular Binding

SBT-100 In Vivo Efficacy in Pancreatic Cancer Cells: In Combination with Gemcitabine

SBT-100 In Vitro Efficacy: TNBC

REFERENCES


Summary: KRAS Binding & Inhibition by SBT-100

- Biophysical Data: SBT-100 binds to KRAS (G12V) in a Biacore assay with nanomolar affinity (Kd = 10-10 M).
- Biochemical Data: SBT-100 inhibits KRAS GTPase activity equivalent to the polyclonal anti-KRAS antibody.
- Western Blot: SBT-100 down regulates p-EKR expression in cancer cells with activated KRAS mutations.
- MTX Assay: SBT-100 significantly inhibits cell growth of human cancers with KRAS mutations in vitro.
- In Vivo Xenograft Study: SBT-100 significantly inhibits the growth of human tumors with KRAS mutations.

Affinity Binding of SBT-100 sdAb in Bliaocyte

SBT-100 In Vitro Efficacy: TNBC

SBT-100 In Vivo Efficacy in Pancreatic Cancer Cells: In Combination with Gemcitabine

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