CD146 mAB & CANCER
IgG MONOCLONAL ANTIBODIES TARGETING HU sCD146 INHIBITING TUMOR ANGIogenesis AND GROWTH

BACKGROUND
In the field of anti-tumor therapy, it has been demonstrated a significant effect of anti-angiogenic molecules which target mainly the Vascular Endothelial Growth Factor (VEGF) as blocking antibodies.

HOWEVER

⇒ their efficiency is still insufficient,
⇒ the effects are multiple, and
⇒ these treatments are not effective on all types of cancers

⇒ Our new technology: generation of mAbs targeting Hu sCD146 having the capacity to block tumor angiogenesis and growth.

KEYWORDS
SOLUBLE CD146
ANTI-ANGIOGENIC
ONCOLOGY
MAB-ANTI sCD146

KEY BENEFITS vs. STATE OF THE ART

• Anti-sCD146 antibodies neutralize the biological activity of sCD146 by inhibiting vascular endothelial cell growth
• Complementary effects of anti-sCD146 antibodies and anti-VEGFR2 antibodies
• Tested in xenografted murine model with different human cancer cell lines.

DEVELOPMENT STATUS

• Plasmatic biologically active recombinant form of human sCD146 displayed angiogenic properties both in vitro and in vivo. Harhouri & all BLOOD 2010 115(18):3843-3851
• sCD146-receptor identification by the team
• Generation of M2J-1 mAb targeting human sCD146 able to block tumor angiogenesis and growth in vivo.
  → Chimerization already obtained
  → Humanization ongoing

Results obtained: Stalin J & all ONCOGENE 2016 35(42):5489-5500

• CD146 is expressed in different tumors: Melanoma, Prostate, Colon, Breast, Pancreas → expression correlated with tumor and metastatic potential.
• sCD146 is secreted by CD146+ tumors to promote neo-angiogenesis and growth.
• Autocrine effects of sCD146 on tumor cells and paracrine effects on endothelial cells.
• Anti-proliferative effect of M2J-1 mAb on tumor and endothelial cells (additive with anti-VEGF mAb) in vitro.
• Inhibitory effect of M2J-1 on tumor angiogenesis and growth in vivo.
• M2J-1 mAb increases tumor cells apoptosis.

APPLICATIONS
Oncology
Alone or in association with angiogenic molecules and/or chemotherapy