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COILED COIL p53

THERAPEUTICS

Peptides with coiled-coil p53 to suppress tumor activity in cancer cells by avoiding interaction between wild-type p53 and mutant p53.

TECHNOLOGY TYPE

Biologics
Oncology
Gene Therapy, Silencing, & Editing

STAGE OF DEVELOPMENT

- Proof of concept demonstrated through i*n vivo* testing in mice.

- Ongoing testing in animal models.

IP PROTECTION

Nationalized PCT Pending in United States and Europe
Oligomerization Domain of p53 to Bypass the Dominant-Negative Effect of Mutant
WO2015120298A1

LEARN MORE

Reference Number: U-5571

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TECHNOLOGY SUMMARY

p53 is a transcription factor that also stimulates apoptotic signaling through death receptors and the mitochondria. Over half of all cancer express p53 mutations and wild-type p53 is often introduced into cancer cells for treatment. Mutated p53, however, interacts with the wild-type p53 rendering it ineffective at suppressing tumors.

A novel form of p53 that contains a coiled-coil suppresses tumor activity without interacting with mutant p53. The coiled-coil causes the new p53 to interact only with itself, preventing dimerization. The p53 coiled-coil can be introduced into tumor cells without causing dominate-negative effect. It triggers a rapid apoptotic response and maintains full tumor suppression properties.

FEATURES AND BENEFITS

- Replaces wild-type p53 in cancer gene therapy.
- Avoids dominant-negative effect.
- Retains full tumor suppressor activity.
- Exhibits increased transcriptional activity.

RECENT PUBLICATIONS

Okal, A., Matissek, K.J., Matissek, S.J., Price, R., Salama, M.E., Janát-Amsbury, M.M., Lim, C.S. (2014). Re-engineered p53 activates apoptosis in vivo and causes primary tumor regression in a dominant negative breast cancer xenograft model. *Gene Therapy*. 21(10): 903-912. doi: 10.1038/gt.2014.70

INVENTOR PROFILE

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