Development of Recombinant Transcription Factor Proteins and Antibodies for Application in Clinical Immunoassays

Abstract # 5544

Introduction

Epithelial-to-mesenchymal transition (EMT) plays a critical role in tumorigenesis. Epithelial-mesenchymal transition (EMT) occurs in the progress of tumorigenesis, which is responsible for the correlations of disease resistance and metastasis. EMT is determined by the action of transcription factors and their respective genes to be affected by different pathways.

A panel of research on the Victor of Cancer Treatment and Diagnosis (ELISA) and the corresponding ELISA kits have been developed for the detection of EMT transcription factors. The ELISA kits can be used for the detection of EMT transcription factors in different cell lines and tissues. The ELISA kits are based on the principle of sandwich ELISA, where the immobilization of antigens is used to capture the target proteins. The captured target proteins are then detected using specific antibodies.

Example A: Characterization of Purified Anti-Gooosei (GSC) MAbs for use in Immunoassays

Antigen: detoxified GSC peptide
ELISA: absorbance at 492 nm
Production of Recombinant Transcription Factor Proteins

Example B: Characterization of Purified Anti-NANOG MAbs for use in Immunoassays

Antigen: NANOG peptide
ELISA: absorbance at 492 nm
Production of Recombinant Transcription Factor Proteins

Conclusions

- The Pharmacodynamics and Therapeutic Functional Working Group (NCI/CTCT and CPT) in consultation with Dr. Weibel (MTF) identified a need for specific reagents for EMT/EMT cell targets to support research and assay development. Recombinant proteins have been made for 12 EMT/EMT cell domains (either as full-length or fragments).
- Antibodies are being developed against these same 12 targets.
- Production of purified MAbs to GSC, NANOG, SNAIL, and BHLH have been completed. Planned completion for the remaining MAbs will be in 2013.
- MAbs to GSC and Nanog have been demonstrated to work by ELISA, WB, IFA, and IP-MS assays.
- Additional characterization is in progress.