The benefits of bispecific mAb3 antibodies targeting EGFR and HGF

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ABSTRACT

F-star’s Modular Antibody Technology™ platform introduces a novel anten gen binding site into the constant (C) region of an antibody to create a so-called mAb3. The mAb3 fuses two distinct antigen-binding sites. This reading helps to define combined with variable regions (V) of two distinct modules to generate a full-length bispecific antibody with mAb3.

Here, we show how mAb3 targeting Epidermal Growth Factor Receptor (EGFR) and Hepatocyte Growth Factor (HGF) 2:1 EGFR mAb3, select cell proliferation in vitro and show antitumor activity in patient derived xenograft (PDX) models in vivo. The mAb3 mAb3 shows superior inhibition of tumor growth compared to combination treatments in tumors with specific, minimal effects on normal tissues suggesting novel biology of the bispecific.

BACKGROUND

F-star’s Modular Antibody Technology™ platform introduces a novel antigen binding site into the constant (C) region of an antibody to create a so-called mAb3. This reading helps to define combined with variable regions (V) of two distinct modules to generate a full-length bispecific antibody with mAb3.

The resulting Fc or Fab fragments of two distinct modules selected for the killing activity can be easily used for another antibody to be generated full-length bispecific antibody with mAb3.

mAb3 scaffold and diversity capacity of this fully human discovery engine creates mutually beneficial bispecific product opportunities.

CONCLUSIONS

The EGFR/HGF mAb3 bispecific antibody:

- Binds to both human EGFR and HGF with nanomolar affinities
- Shows potent in vitro anti-proliferation effect
- Has a superior in vivo anti-tumor efficacy (or equivalent to the combination of monotherapies)

Arms by co-administering free mAb and by facilitating mAb internalization (presenting the activation of both (mAb) individual and dual mAb-mediated cell proliferation pathways)

Exhibits a synergistic in vitro activity compared to monotherapy in NCI-H2009 and NCI-H286 models (data not shown).

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