MSD's Respiratory Virus Programs: Focus on MK-1406 (CD388)

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Focus on Prevention and Treatment of Respiratory Viruses

- Influenza: MK-1406 (CD388)
- RSV: Enflonsia
- SARS-CoV-2: Lagevrio

Influenza is a major driver of morbidity and mortality despite available vaccines and antivirals

Disease Burden

In the U.S. (each season)[1]:

47M– 82M
Influenza illnesses

610K – 1.3M
Influenza hospitalizations

21M – 37M
Influenza medical visits

27K – 130K
Influenza deaths

Current Options

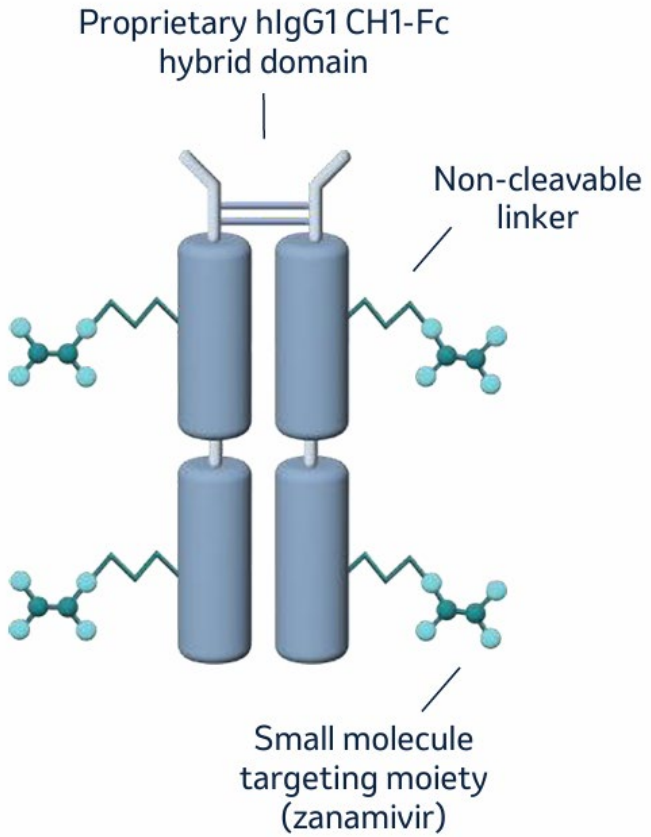
- **Traditional flu vaccines** are broadly available, but despite wide-spread use, influenza continues to cause severe disease, hospitalization and death
- **Enhanced vaccines** have modest efficacy improvement, but high-risk groups remain exposed to flu infections[2]
- **Antivirals** effective only when initiated <48-hours of exposure; short half-life limits use for pre-exposure prophylaxis

1. CDC: Preliminary Estimated Flu Disease Burden 2024-2025 Flu Season 2. Approximately 20% relative increase in efficacy

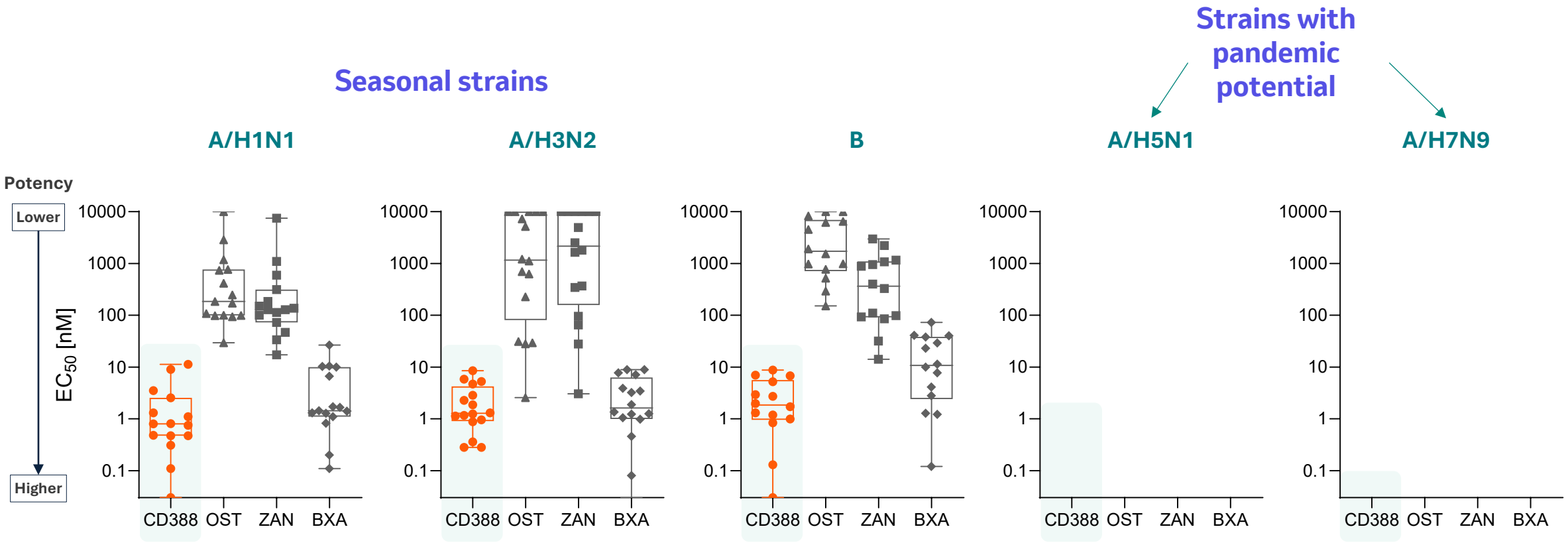
MK-1406 has potential to be a novel first-in-class long-acting, anti-viral with ability to prevent symptomatic influenza

MK-1406 (also known as CD388)

- Consists of multiple small molecule neuraminidase inhibitors conjugated to Fc fragment of human antibody **engineered for extended half-life**
  - Low molecular weight biologic designed to function as **long-acting** small molecule inhibitor
  - Potentially enables **full seasonal coverage of influenza A and B**
- Mechanism involves targeting neuraminidase with potential to be **complementary to flu vaccines**
  - **Designed to provide protection** regardless of immune status
- **Improved potency vs. standard NAIs**: Dimers of zanamavir with multivalency enhances antiviral activity



MK-1406 has antiviral activity across diverse influenza A and B strains



A/Vietnam/1194/2004 – clade 1
A/Indonesia/05/2005 – clade 2.1.3.2
A/Turkey/2005 – clade 2.2.1
A/Hong Kong/156/97 – clade 0

Nature Microbiol.2025 Apr;10(4):912-926. doi: 10.1038/s41564-025-01955-3. Epub 2025 Mar 17.

Phase 2b NAVIGATE study demonstrated high prevention efficacy in healthy unvaccinated adults

Primary Endpoint	150 mg N=1,175 n (%)	300 mg N=1,192 n (%)	450 mg N=1,187 n (%)	Placebo N=1,172 n (%)
# of participants with a protocol-defined influenza like illness	14 (1.2)	13 (1.1)	8 (0.7)	33 (2.8)
Prevention Efficacy (%)[1]	57.7	61.3	76.1	-
95% CI (%)	21.1, 78.9	27.0, 81.2	49.3, 89.9	-
p-value[2]	0.0050	0.0024	<0.0001	-

- MK-1406 demonstrated **76% prevention efficacy of influenza** at highest dose
- Safety and tolerability, including injection site reactions, were similar in all arms with **no safety signals observed**
- **Low incidence of anti-drug-antibodies** observed at all doses

Phase 3 ANCHOR study evaluating MK-1406 in individuals at high-risk for severe complications from influenza

Stratification: immune status, age, and vaccination status

Individuals at least 12 years old at high-risk for complications of influenza and Immunocompromised Individuals

R
1:1

- MK-1406
- Placebo

~7,500 participants over at least 2 influenza seasons

Study Population

Non-immunocompromised

- **Pulmonary disease** (COPD, bronchiectasis, cystic fibrosis, interstitial lung disease, etc)
- Moderate to severe **asthma**
- History of **cardiac disease** including congenital heart disease, CHF, CAD, etc)
- Insulin-dependent **diabetes**
- Moderate **renal impairment**
- **65 years old and older**

Immunocompromised

- Solid tumor
- Hematologic malignancy
- Solid organ transplant
- Hematopoietic stem cell transplant
- Receiving immunosuppressive medicines
- Received chimeric antigen receptor-modified T-cell therapy
- Received B-cell depleting therapies
- Primary immunodeficiency
- Advanced or untreated HIV

Endpoints

Primary: Evaluate the clinical efficacy of MK-1406 in preventing symptomatic laboratory-confirmed influenza infections vs placebo

Secondary:

- Safety and tolerability
- Pharmacokinetics and anti-drug antibodies

Thank You