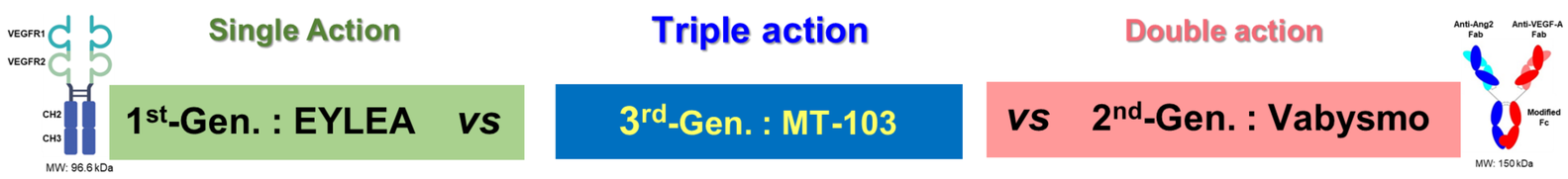
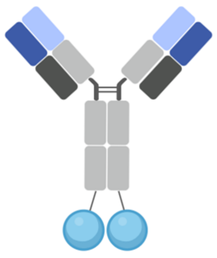
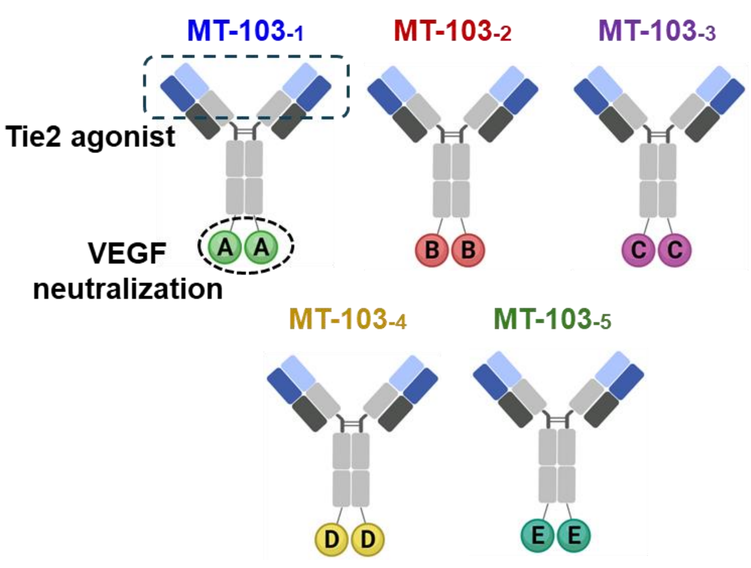
RS-2024-00334041

Development of a tri-functional bispecific antibody candidate activating Tie2 and inhibiting VEGF/Ang-2 for treating wet age-related macular degeneration (wAMD)

MabTics Co., Ltd.

Disease area	***Opthalmology***
Product Type	Bispecific antibody
Indication	Wet age-related macular degeneration (wAMD)
Target	Tie2 (TEK receptor tyrosine kinase) and VEGF
Mechanism of Action	◉ **Tie2 & cascade signaling activation** - Phosphorylation of Tie2 and eNOS/AKT/ERK ◉ **Blockade of Ang-2 binding to Tie2** ◉ **Neutralization of VEGF** - Inhibition of VEGFR2 phosphorylation ◉ **Anti-inflammation and anti-permeability activity** - Inhibition of VEGF-induced NF-κB - Maintenance of endothelial adherent junction via VE-cadherin expression
Competitiveness	◉ **Tri-functional activity** - ① Tie2 activation, ② Inhibition of Ang-2 activity, ③ VEGF/VEGFR2 inhibition  • More effective & responsible in patients resistant to anti-VEGF therapies • Inhibits Ang2 binding to Tie2 • Normalizes & stabilizes pre-formed abnormal vessels **MT-103**  • More effective in a certain pathological condition (Ang1^{low} / Ang2^{high}) • Directly activates Tie2 • Normalizes & stabilizes pre-formed abnormal vessels
Development Stage	***Candidate***
Route of Administration	Intravitreal
Key Data	 **Comparison between MT-103s and competitors' drugs** - MT-103 only activates Tie2 signaling and induces endothelial cell survival compared to Eylea and Vabysmo in a pathological condiation - MT-103's functionality is better than a competitor's bispecific Ab
IP	Will be submitted in 2024.Q2

Tested drugs	① Tie2 & cascade signaling activation (Ang-1^{low}/VEGF^{high})	② VEGF/VEGFR2 signaling inhibition	③ Induction of endothelial cell survival
Eylea	-	●●●	-
Vabysmo	-	●●	-
Competitor A	●●	●●●	●●
MT-103-1/-4	●●●	●●●	●●●