KRICT | # IRAK4 inhibitor (KIC0090s)

2017 한국화학연구원 신약R&D 산·연 기술교류회

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Target	
Mechanism of Action	• NF-κB and IRF signaling suppression through IRAK4 inhibition
Indication - Primary	• Autoimmune diseases (Systemic Lupus Erythematosus, Rheumatoid Arthritis) • Hematological cancers (ABC-DLBCL, MyD88-pathway activated Lymphoma)
Indication - Expansion	• Autoimmune disease, Malignant tumor
Route of Administration	• PO
Competitive Advantage	• Competitive in efficacy & PK profiles compared with PF06650833 (Pfizer, Phase I) • IRF signaling suppression : >60% inhibition at 1 μM, THP-1 • Kinase selectivity : 2/56 profiling (>90% inhibition at 1 μM, IRAK4, PIM1) • Novel chemical structure
Data Files	• In vitro IRAK4 enzyme inhibition : IC_{50} 1~10 nM • In vitro cell-based inhibition : - Inflammatory signaling , NF-κB (>30% at 0.1 μM), IRF (>20% at 0.1 μM) - Cytokine secretion, TNF-α, IFN-α (IC_{50} 0.1 ~ 1 μM, PBMC) • In vivo cytokine reduction : TNF-α 35% (25 mpk, po, q·d, rodent model) • DMPK (mouse) : AUC 0.239 μM·h ; $T_{1/2}$ 8.91 h; F = 11% (10 mpk, po) • Tox : CYP450s (IC_{50} > 10 μM) hERG binding (IC_{50} > 10 μM), Cytotoxicity (GI_{50} >10 μM)
IP Status	• Patent filing underway
Collaboration Model	• Licensing out, Collaborative research
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