FOR SIGNALING PATHWAY Mast cell Phosphatidyl inositol signaling system K07370 Degranulation **-**º0 0 Toxic to parasites Ca²⁺ IP3 Increase vascular permeability K03084 +p ** Histamine Heparin Cause smooth muscle contraction K02677 PIP3 DAG K08091 Cytokine gene transcription Stimulate and amplify Th2 cell response K05703 K05435 K05430 K06856 K08089 K08090 K04736 0 K05428 K07983 O Antigen Promote eosinophil production and activation **Z**DNA K05427 K07361 K06856 K08089 Promotes inflammation K04432.. K08090 Stimulates cytokine production by many cell types K07983 Activates endothelium +p_ K05730 Cause smooth Generation of eicosanoids muscle contraction K16342 MAPK signaling pathway **O**66 ಂ Increase vascular LTD4 K02833... LTC4 K07362 permeability ැ<u>ල</u> 2 Stimulate mucus LTE₄ secretion Arachidonic acid K03099 0 Recruit effector cells Arachidonic acid PGD2 metabolism 04664 10/23/15 (c) Kanehisa Laboratories