## LEISHMANIASIS Ubiquitin-mediated proteolysis Macrophage K04383 K04427 K03175 K02581... K04519 K04403... K05406... Toll-like receptor signaling pathway K02580... K03156 DNA K13537 K13241 Reduced leishmanicidal activity Phosphatidylserine PtSR Macrophage deactivation LPG DNA Arachidonic acid metabolism Complement cascade *Leishmania* promastigote K04011 FcyR-mediated phagocytosis *Leishmania* amastigote LPG K06461.. Phagosome Phagocytosis Antigen GIPLs K06498... ∐PG: K01404 K06483... GIPLs K13241 K08009 Calcium signaling pathway NADPH oxidase Impaired oxidative burst $Ca^{2+}$ Leishmania major Leishmania tropica Ceramide Leishmania mexicana K13537 Leishmania braziliensis K04375 K04379 Leishmania chagasi Leishmania donovani EF1α Impaired microbial killing MAPK signaling pathway K04448 -p K13241 Prevented Th1 immune response DNA -p K04687 K11217... **→**O— DNA K11220 Antigen presentation failure Jak-STAT signaling pathway $^{\lambda}$ DNA 05140 10/23/15 (c) Kanehisa Laboratories