## PEPTIDOGLYCAN BIOSYNTHESIS Aminosugar metabolism UDP-N-acetylglucosamine enolpyruvate K00075 °♥°UDP-N-acetylmuramate 🍟 UDP-MurNAc-L-Ala ' UDP-MurNAc-L-Ala-D-Glu OD-Alanine D-Alanine K05362 K01928.. metabolism K01921 UDP\_MurNAc-L-Alaco UDP-MurNAc-L-Ala-y-D-Glu-<sub>[≫</sub>‡...D-Ala-D-Ala y-D-Glu-L-Lys meso-2,6- diaminopimelate Undecaprenol 🦈 K01929.. K01929 K00887 UDP-MurNAc-L-Alay-D-Glu-L-Lys-D-Ala-D-Ala Undecaprenyl-P. K01000 Pf**©4** UMP® ¶MU©**™** ♥ Und-PP-MurNAc-L-Ala-°♥%-D-Glu-meso-2,6-diaminopimeloyl-D-Ala-D-Ala Und-PP-MurNAc-K06153.. L-Ala- y-D-Glu-L-Lys-D-Ala-D-Ala Undecapreny-PF UDP-GlcNAc<sup>™</sup> OUDP-GlcNAc Und-PP-MurNAc-Und-PP-MurNAc-(GlcNAc)-(GlcNAc)- L-Ala-y-D-Glu-∞ L-Lys-D-Ala-D-Ala 2,6-diaminopimeloyl-D-Ala-D-Ala K11693 K05363 Und-PP-MurNAc-(GlcNAc)-L-Ala-y-D-Glu-L-Lys-(L-Ala)-D-Ala-D-Ala (Gfy)-D-Alá-D-Alá K12554 Und-PP-MurNAc-(GlcNAc)-L-Ala-y-D-Glu-L-Lys-(L-Ala)2-D-Ala-D-Ala flippase K03980 (Gfy)5-D-Ala-D-Ala

Und-PP-MurNAc-(GlcNAc)- L-Ala-D-isoglutaminylc L-Lys-D-Ala-D-Ala Und-PP-MurNAc-(GlcNAc)-L-Ala-D-isoglutaminyl-L-Lyse Und-PP-MurNAc-(GlcNAc)- ▼ L-Ala-D-isoglutaminyl-L-Lys-©<sup>2</sup> (Gly)3-D-Ala-D-Ala Und-PP-MurNAc-(GlcNAc)-L-Ala-D-isoglutaminyl-L-Lys- 65 K04478 K03814 K05364 K05366 K05366.. K05366.. K07258.. K07258 K07258.. D-Alanine 🗪 D-Alanine 🗪 O°D-Alanine Peptidoglycan Peptidoglycan Peptidoglycan 00550 5/28/15 (c) Kanehisa Laboratories