AMINOACYL-tRNA BIOSYNTHESIS fRNA-Ghi fRNA-Val L-Valine L-Glutamate 6.1.1.17 ►○ L-Glutamyl-tRNA(Glu) 6.1.1.9 6.1.1.24 fRNA-Leu ► L-Glutamyl-tRNA(Gln) 6.1.1.24 L-Leucine Valline, leucine and isoleucine biosynthesis fRNA-Gin L-Glutamine L-Glutaminyl-tRNA(Gln) 6.1.1.18 tRNA-He Alanine, aspartate and glutamate metabolism L-Isoleucine fRNA-Ah ►○ L-Isoleucyl-tRNA(Ile) ------L-Alanine →○ L-Alanyl-tRNA(Ala) 6.1.1.7 fRNA-Lys L-Lysine fRNA-Asp 6.1.1.6 L-Aspartate → C L-Aspartyl-tRNA(Asp) 6.1.1.23 biosynthesis fRNA-Pyi L-Pyrrolysine ► C L-Aspartyl-tRNA(Asn) —►○ L-Pyrrolysyl-tRNA(Pyl) ------6.1.1.26 6.3.5.6 fRNA-Asn L-Asparagine L-Asparaginyl-tRNA(Asn) fRNA-Arg L-Arginine --D<0-6.1.1.19 → O L-Arginyl-tRNA(Arg) RNA-Gly Arginine and proline metabolism Glycine →O Glycyl-tRNA(Gly) fRNA-Pro 6.1.1.14 L-Proline → C L-Prolyl-tRNA(Pro) -0< fRNA-Thr L-Threonine fRNA-His L-Threonyl-tRNA(Thr) L-Histidine Histidine L-Histidyl-tRNA(His) fRNA-Ser Glycine, serine and threonine metabolism fRNA-Fre 6.1.1.11 → C L-Seryl-tRNA(Ser) L-Phenylalanine L-Phenylalanyl-tRNA(Phe) 2.9.1.1 fRNA-Sec Phenylalanine, tyrosine and tryptophan biosynthesis 6.1.1.11 2.7.1.164 ►○ 2.9.1.2 fRNA-Tyr L-Seryl-tRNA(Sec) L-Selenocysteinyl-tRNA(Sec) O-Phosphoseryl-tRNA(Sec) L-Tyrosine ►O L-Tyrosyl-tRNA(Tyr) O-Phosphoseryl-tRNA(Cys) ---fRNA-Trp O-Phospho-L-serine 2.5.1.73 fRNA-Cys L-Tryptophan L-Tryptophanyl-tRNA(Trp) Tryptophan metabolism 6.1.1.2 ----L-Cysteine L-Cysteinyl-tRNA(Cys) 6.1.1.16 Cysteine and methionine O THF fRNA-Met metabolism L-Methionine ►○ N-Formyl-methionyl-tRNA L-Methionyl-tRNA(Met) Ť THF