| Carbon substrate | (in vivo/in silico) | Transport reaction | Catabolism reaction | |
|---|---|---|---|---|
| | | | Function | Gene |
| α-D-Glucose | (+/+) | nocyr_3162 | Glucokinase | nocyr_3654 |
| | | | Isocitrate dehydrogenase | nocyr_0982, nocyr_2095 |
| α-Keto-Glutaric Acid | (+/+) | nocyr_0877 | Glutamate synthase | nocyr_0046, nocyr_0047 |
| | | | Alpha-ketoglutarate decarboxylase | nocyr_4437 |
| Acetic Acid | (+/+) | nocyr_1905, nocyr_1906 | Acetyl-CoA synthetase | nocyr_0331, nocyr_4359 |
| D-Fructose | (+/+) | nocyr_2500, nocyr_5425 | Fructose-1-phosphate kinase | nocyr_2208 |
| | | | 6-phosphofructokinase | nocyr_3974 |
| D-Ribose | (+/+) | nocyr_2500, nocyr_5425 | Ribose-5-phosphate isomerase B | nocyr_1338 |
| | | | Putative ADP-ribose pyrophosphatase | nocyr_2198 |
| | | | Tkt transketolase | nocyr_3442 |
| | | | Ribose-phosphate pyrophosphokinase | nocyr_4668 |
| D-Xylose | (+/+) | nocyr_2500, nocyr_5425 | Putative Xylose isomerase | nocyr_4986 |
| Glycerol | (+/+) | nocyr_3162 | Glycerol kinase | nocyr_1036, nocyr_2754, nocyr_2756 |
| L-Asparagine | (-/-) | nocyr_1382 | L-asparaginase | not found |
| L-Glutamic Acid | (+/+) | nocyr_2070, nocyr_3715, nocyr_3716, nocyr_3717, nocyr_3718, nocyr_5421 | Glutamine synthetase | nocyr_1738, nocyr_0204, nocyr_1317, nocyr_1380, novyr_2699, nocyr_2801, nocyr_1419 |
| L-Glutamine | (+/+) | nocyr_2070 | L-glutamine:D-fructose-6-phosphate amidotransferase | nocyr_0927 |
| L-Lyxose | (+/-) | nocyr_2500, nocyr_5425 | Aldolase | not found |
| L-Proline | (-/+) | nocyr_1907, nocyr_4096 | Proline dehydrogenase | nocyr_4495 |
| | | | pyrroline-5-carboxylate reductase | nocyr_4984 |
| L-Serine | (-/-) | not found | Serine 3-dehydrogenase | nocyr_4997 |
| L-Threonine | (-/-) | not found | threonine dehydratase | nocyr_1314, nocyr_1923 |
| Methyl Pyruvate | (+/+) | not found | Pyruvate dehydrogenase | nocyr_1090, nocyr_1091, nocyr_1668 |
| | | | Pyruvate decarboxylase | nocyr_3109 |
| | | | Pyruvate carboxylase | nocyr_2275, nocyr_3905 |
| Mono Methyl Succinate | (+/+) | not found | Succinate dehydrogenase | nocyr_0402, nocyr_0491, nocyr_0982, nocyr_1011, nocyr_1012, nocyr_1013, nocyr_1014, nocyr_1614, nocyr_2457, nocyr_2526, nocyr_3221, nocyr_3762, nocyr_3787, nocyr_3994, nocyr_4767, nocyr_5495 |
| Propionic Acid | (+/+) | not found | Fructose-1-phosphate kinase | nocyr_2208 |
| | | | 6-phosphofructokinase | nocyr_3974 |
| Pyruvic Acid | (+/+) | not found | Pyruvate dehydrogenase/ decarboxylase/ carboxylase | nocyr_1090, nocyr_1091, nocyr_1668, nocyr_3109, nocyr_2275, nocyr_3905 |
| Tween 20 | (+/+) | not found | Lipase/esterase | nocyr_1901, nocyr_2297, nocyr_3023 |
| Tween 40 | (+/+) | | Long-chain-fatty-acid-CoA ligase | nocyr_4443 |
| Tween 80 | (+/+) | | Beta-ketoacyl-CoA thiolase | nocyr_2317, nocyr_4330 |

| Nitrogen substrate | (in vivo/in silico) | Transport reaction | Catabolism reaction | |
|---|---|---|---|---|
| | | | Function | Gene |
| Ammonia | (+/+) | nocyr_3877, nocyr4095 ammonium | Glutamate-ammonia ligase | nocyr_1727, nocyr_3021 |
| D,L-á-Amino-Caprylic Acid | (+/+) | not found | Amino-transferase, fatty-acid-CoA ligase, acyl-CoA-oxidase, Short chain enoyl-CoA hydratase, acetyl-CoA acetyltransferase | nocyr_1035, 5280, nocyr_1477, 1607, 2793, 4443, 4484, nocyr_2558, nocyr_0541, 3004 |
| D-Mannosamine | (+/+) | not found | Amino-transferase | nocyr_1035, 5280 |
| Glucuronamide | (+/+) | not found | Amidase | nocyr_0399, 1503, 2714, 5286 |
| L-Asparagine | (+/-) | nocyr_1382 | L-asparaginase | not found |
| L-Alanine | (-/-) | | L-alanine dehydrogenase | nocyr_1677 |
| L-Arginine | (-/-) | | arginine deiminase | nocyr_4697 |
| L-Asparagine | (+/-) | nocyr_1382 | L-asparaginase | not found |
| L-Aspartic Acid | (+/+) | 26 amino-acid transporters | Aspartate 1-decarboxylase | nocyr_0416 |
| | | | Aspartate-semialdehyde dehydrogenase | nocyr_0297 |
| | | | Putative aspartate aminotransferase | nocyr_0573, nocyr_2246 |
| | | | L-aspartate oxidase | nocyr_1969, nocyr_4454 |
| | | | Argininosuccinate synthase | nocyr_2162 |
| | | | Adenylosuccinate synthase | nocyr_5220 |
| L-Cysteine | (+/+) | 26 amino-acid transporters | Putative cysteine dioxygenase | nocyr_0418 |
| | | | Bifunctional phosphopantothenoylcysteine-decarboxylase/phosphopantothenate synthase | nocyr_3502 nocyr_0178, nocyr_0389, nocyr_3424, |
| | | | Putative cysteine desulfurase | nocyr_4001 |
| L-Glutamic Acid | (+/+) | nocyr_2070, nocyr_3715, nocyr_3716, nocyr_3717, nocyr_3718, nocyr_5421 | Glutamine synthetase | nocyr_1738, nocyr_0204, nocyr_1317, nocyr_1380, novyr_2699, nocyr_2801, nocyr_1419 |
| L-Glutamine | (+/+) | nocyr_2070 | L-glutamine:D-fructose-6-phosphate amidotransferase | nocyr_0927 |
| Glycine | (-/+) | nocyr_0719, nocyr_0720, nocyr_3173, nocyr_4096, | Glycine dehydrogenase | nocyr_2568 |
| L-Histidine | (+/+) | nocyr_3160, nocyr_3162 | Histidine ammonia-lyase | nocyr_0194 (cluster of histidine degradation) |
| L-Isoleucine | (-/-) | not found | leucine dehydrogenase | Not found |
| L-Leucine | (-/-) | not found | leucine dehydrogenase | Not found |
| L-Lysine | (-/+) | nocyr_2766 | Orn/Lys/Arg decarboxylase | nocyr_2212 |
| L-Methionine | (-/-) | not found | methionine decarboxylase | not found |
| L-Phenylalanine | (-/-) | not found | phenylalanine 4-monooxygenase | nocyr_1007 |
| | | | 4-hydroxyphenylpyruvate dioxygenase | nocyr_4865 |
| L-Proline | (-/+) | nocyr_1907, nocyr_4096 | Proline dehydrogenase | nocyr_4495 |
| | | | pyrroline-5-carboxylate reductase | nocyr_4984 |
| L-Serine | (-/-) | not found | Serine 3-dehydrogenase | nocyr_4997 |
| L-Threonine | (-/-) | not found | threonine dehydratase | nocyr_1314, nocyr_1923 |
| L-Tryptophan | (-/-) | not found | tryptophan α,β oxydase | not found |
| | | | tryptophan dehydrogenase | |
| L-Tyrosine | (+/+) | 26 amino-acid transporters | Aspartate/tyrosine aminotransferase | nocyr_0634 |
| L-Valine | (-/-) | | Valine dehydrogenase | nocyr_1282 |
| Nitrite | (+/+) | nocyr_2944, nocyr_4289, nocyr_4292 | Nitrite reductase | nocyr_4287, nocyr_4288 |
| Nitrate | (+/+) | nocyr_2944, nocyr_4289, nocyr_4292 | Nitrate reductase | nocyr_2522, nocyr_2523, nocyr_2524, nocyr_2525, nocyr_2939, nocyr_2940, nocyr_2942, nocyr_2943, nocyr_3079, nocyr_4273, nocyr_4274, nocyr_4275, nocyr_4276, nocyr_4396, nocyr_4928 |
| Urea | (+/-) | not found | Urease | not found |
| Uric Acid | (+/-) | not found | Urate oxidase | not found |
| Ala-Gln (-/+) | (+/+) | nocyr_0120 | Amidase | nocyr_0399, 1503, 2714, 5286 |
| Ala-His (-/+) | (+/+) | | | |
| Gly-Asn (-/-) | (+/+) | | | |
| Gly-Gln (-/+) | (+/+) | | | |
| Gly-Met (-/-) | (+/+) | | Dipeptidase | nocyr_0580, 4710 |
| Met-Ala (-/-) | (+/+) | | | |
| Ala-Glu (-/+) | (+/+) | | | |
| Gly-Glu (-/+) | (+/+) | | | |

| Osmolites | (in vivo/in silico) | Transport and metabolism reaction | |
|---|---|---|---|
| | | Function | Gene |
| NaCl ≤ 6,5% | (+/+) | Ectoine/hydroxyectoine ABC transporter | nocyr_0721 |
| Ammonium sulfate pH8 ≤ 100mM | (+/+) | Ectoine hydroxylase | nocyr_3186 |
| Potassium chloride ≤ 6% | (+/+) | L-ectoine synthase | nocyr_3187 |
| Sodium Lactate 1% | (+/+) | Glycine betaine transporter betP | nocyr_0720 |
| Sodium Nitrate ≤ 100mM | (+/+) | High-affinity choline transport protein | nocyr_3118 |
| Sodium Nitrite 10mM | (+/+) | Betaine aldehyde dehydrogenase (BADH) | nocyr_3119 |
| Sodium Phosphate pH 7 ≤ 200mM | (+/+) | Choline oxidase | nocyr_3120 |
| Sodium sulfate ≤ 5% | (+/+) | Glycine betaine transporter betP | nocyr_3173 |