Table X. Enzymes

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| **Gene Knockout** | **Background** | **Operant** | **2BC** | **CIE** | **DID** | **SHAC** | **References** |
| Adenylate cyclase (AC) type 1 (*Adcy1*) | B6 |  | — |  |  |  | Maas et al., 2005 [105] |
| AC type 5 (*Adcy5*) | B6 |  | ↑ males/females |  |  |  | Kim et al., 2011 [228] |
| AC type 8 (*Adcy8*) | B6 |  | ↓ |  |  |  | Maas et al., 2005[105] |
| *Adcy1/Adcy8* double knockout | B6 |  | ↓ |  |  |  | Maas et al., 2005[105] |
| Pituitary adenylate cyclase-activating polypeptide (*Adcyap1*) | Crlj:CD1 |  | ↑ |  |  |  | Tanaka et al., 2010 [202] |
| Aldehyde dehydrogenase, mitochondrial (*Aldh2*) | B6B6 × 129Sv/lex |  | ↓↓ sex not specified |  |  |  | Isse et al., 2002 [125] Fernandez et al., 2006 [137] |
| Glutamyl aminopeptidase (Aminopeptidase A) (*Enpep*) | B6 × 129Sv |  | — — stressa |  |  |  | Faber et al., 2006 [146] |
| Catechol-*O*-methyltransferase (*Comt*) | B6  |  | ↑ males—females |  |  |  | Tammimaki et al., 2008 [177] |
| Amine oxidase [flavin-containing] A (*Maoa*) | Tg8 and C3H/HeJ |  | — (2, 24 h) |  |  |  | Popova et al., 2000 [18] |
| Neprilysin, NEP (*Mme*) | B6Nnot specified |  | — ↑ stress↑ |  |  |  | Maul et al., 2012[268]Siems et al., 2000[61] |
| Nitric oxide synthase, brain (*Nos1*) | B6 × 129X1/SvJ |  | ↑ 8-16%, sex not specified |  |  |  | Spanagel et al., 2002 [39] |
| Glutamate decarboxylase 2 (*Gad2*) | B6B6 × 129/SvJN1 B6 × 129/SvJ N2 |  | ——  ↑ |  | — (3 h, 2BC)— (2, 4 h, 1B) | — (30 min) | Blednov et al., 2010 [196] |
| Cytochrome P450 2E1 (*Cyp2e1*)  | 129S1/SV-Ter |  | ↓ preference 4-8%;females |  |  |  | Correa et al., 2009 [185] |
| Protein phosphatase 1 regulatory subunit 1B (DARPP-32) (*Ppp1r1b*) | B6 | ↓ (23 h) |  |  |  |  | Risinger et al., 2001 [29] |
| Histidine decarboxylase (*Hdc*) | 129/SvB6  |  | — |  | — (4 h; males/females) |  | Vanhanen et al., 2013 [307] |
| Tyrosine-protein phosphatase non-receptor type 5, STEP (*Ptpn5*) | B6 |  | ↑ |  |  |  | Legastelois et al., 2015 [321] |
| Ubiquitin carboxyl-terminal hydrolase 46(*Usp46*)  | B6 |  | ↓ |  |  |  | Imai et al., 2013 [278] |
| 5α-reductase type 1 (*Srd5a1*) | C57BL/6 × 129/SvJ |  | ↑ females (6%, 10%, 24 h)↓ males (6%, 10%, 24 h)↓ females (10%, 2 h)↑ males (10%, 2 h) |  |  |  | Ford et al., 2015 [326] |

–, ↓, ↑: no significant difference, decreased ethanol intake and/or preference, or increased ethanol intake and/or preference, respectively, in knockout *vs*. wildtype mice. Male mice were tested unless otherwise indicated. a Social stress reduced alcohol consumption in both knockout and wildtype mice, but there was no genotype difference. Ethanol intake in the two-bottle choice (2BC) tests was measured in 24-h sessions, unless indicated otherwise. Drinking session times for the other tests are indicated in parenthesis. DID, drinking in the dark; 1B, one bottle; SHAC, scheduled high alcohol consumption. Recommended mouse protein and gene (in italics) names are from Uniprot. B6 refers to C57BL/6J mice.