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| **ПРИЛОЖЕНИЕ**  **Таблица S1.** Гены, связанные с регуляцией кальциевых процессов, выбранные для анализа | | | |
|  | Ген | Кодируемый белок |
|  | *Cacna1a* | Voltage-dependent P/Q-type calcium channel subunit alpha-1A |
|  | *Cacna1b* | Calcium channel, voltage-dependent, n type, alpha 1b subunit |
|  | *Cacna1c* | Calcium channel, voltage-dependent, l type, alpha 1c subunit |
|  | *Cacna1d* | Calcium channel, voltage-dependent, l type, alpha 1d subunit |
|  | *Cacna1e* | Calcium channel, voltage-dependent, r type, alpha 1e subunit |
|  | *Cacna1g* | Calcium channel, voltage-dependent, t type, alpha 1g subunit |
|  | *Cacna1h* | Calcium channel, voltage-dependent, t type, alpha 1h subunit |
|  | *Cacna1i* | Voltage-dependent T-type calcium channel subunit alpha |
|  | *Cacna2d1* | Calcium channel, voltage-dependent, alpha2/delta subunit 1 |
|  | *Cacna2d2* | Calcium channel, voltage-dependent, alpha 2/delta subunit 2 |
|  | *Cacna2d3* | Calcium channel, voltage-dependent, alpha2/delta subunit 3 |
|  | *Cacnb1* | Voltage-dependent L-type calcium channel subunit beta-1 |
|  | *Cacnb2* | Voltage-dependent L-type calcium channel subunit beta-2 |
|  | *Cacnb3* | Voltage-dependent L-type calcium channel subunit beta-3 |
|  | *Cacnb4* | Voltage-dependent L-type calcium channel subunit beta-4 |
|  | *Cacng2* | Calcium channel, voltage-dependent, gamma subunit 2 |
|  | *Cacng3* | Calcium channel, voltage-dependent, gamma subunit 3 |
|  | *Cacng4* | Calcium channel, voltage-dependent, gamma subunit 4 |
|  | *Cacng5* | Voltage-dependent calcium channel gamma-5 subunit |
|  | *Calb1* | Calbindin 1; Calbindin; Buffers cytosolic calcium |
|  | *Calb2* | Calbindin 2; Calretinin; Calretinin is a calcium-binding protein |
|  | *Calcoco1* | Calcium-binding and coiled-coil domain-containing protein 1 |
|  | *Calcrl* | Calcitonin gene-related peptide type 1 receptor |
|  | *Calhm2* | Calcium homeostasis modulator family member 2 |
|  | *Calm1* | Calmodulin 1; сalcium-binding protein |
|  | *Calm2* | Calmodulin 2; сalcium-binding protein |
|  | *Calm3* | Calmodulin 3; сalcium-binding protein |
|  | *Calml4* | Calmodulin-like protein 4 |
|  | *Caln1* | Calcium-binding protein 8 |
|  | *Calr* | Calreticulin, сalcium-binding chaperone |
|  | *Calu* | Calumenin, вinds 7 calcium ions with a low affinity |
|  | *Caly* | Neuron-specific vesicular protein calcyon |
|  | *Camk1* | Calcium/calmodulin-dependent protein kinase type 1 |
|  | *Camk1d* | Calcium/calmodulin-dependent protein kinase type 1D |
|  | *Camk1g* | Calcium/calmodulin-dependent protein kinase type 1G |
|  | *Camk2a* | Calcium/calmodulin-dependent protein kinase type II subunit alpha |
|  | *Camk2b* | Calcium/calmodulin-dependent protein kinase type II subunit beta |
|  | *Camk2d* | Calcium/calmodulin-dependent protein kinase type II subunit delta |
|  | *Camk2g* | Calcium/calmodulin-dependent protein kinase type II subunit gamma |
|  | *Camk2n1* | Calcium/calmodulin-dependent protein kinase II inhibitor 1 |
|  | *Camk2n2* | Calcium/calmodulin-dependent protein kinase II inhibitor 2 |
|  | *Camk4* | Calcium/calmodulin-dependent protein kinase |
|  | *Camkk1* | Calcium/calmodulin-dependent protein kinase kinase 1 |
|  | *Camkk2* | Calcium/calmodulin-dependent protein kinase kinase 2, beta |
|  | *Camkmt* | Calmodulin-lysine N-methyltransferase |
|  | *Camkv* | CaM kinase-like vesicle-associated protein |
|  | *Efcab4a* | EF-hand calcium-binding domain-containing protein 4A |
|  | *Grin1* | Glutamate receptor, ionotropic, NMDA 1 (zeta 1) |
|  | *Grin2a* | Glutamate receptor ionotropic, NMDA type subunit 2A |
|  | *Grin2b* | Glutamate receptor, ionotropic, NMDA type subunit 2B (epsilon 2) |
|  | *Grin2c* | Glutamate receptor ionotropic, NMDA type subunit 2C |
|  | *Hpcal1* | Hippocalcin-like protein 1 |
|  | *Hpcal4* | Hippocalcin-like protein 4 |
|  | *Ppp3ca* | Serine/threonine-protein phosphatase 2B catalytic subunit alpha isoform |
|  | *Ppp3cb* | Serine/threonine-protein phosphatase 2B catalytic subunit beta isoform |
|  | *Ppp3cc* | Serine/threonine-protein phosphatase 2B catalytic subunit gamma isoform |
|  | *Ppp3r1* | Protein phosphatase 3, regulatory subunit b, alpha isoform (calcineurin b, type i) |
|  | *S100a1* | S100 calcium binding protein A1 |
|  | *S100a10* | Protein S100-A10 |
|  | *S100a11* | S100 calcium binding protein A11 |
|  | *S100a13* | Protein S100-A13 |
|  | *S100a16* | Protein S100-A16; Calcium-binding protein. |
|  | *S100a4* | S100 calcium binding protein A4 |
|  | *S100a6* | Protein S100-A6 |
|  | *S100b* | S100 protein, beta polypeptide, neural |
|  | *S100pbp* | S100P binding protein |
|  | *Slc24a1* | Solute carrier family 24 (sodium/potassium/calcium exchanger), member 1 |
|  | *Slc24a2* | Solute carrier family 24 (sodium/potassium/calcium exchanger), member 2 |
|  | *Slc24a3* | Solute carrier family 24 (sodium/potassium/calcium exchanger), member 3 |
|  | *Slc24a4* | Solute carrier family 24 (sodium/potassium/calcium exchanger), member 4 |
|  | *Slc24a5* | Solute carrier family 24 (sodium/potassium/calcium exchanger), member 5 |
|  | *Slc8a1* | Sodium/calcium exchanger 1 |
|  | *Slc8a2* | Sodium/calcium exchanger 2 |
|  | *Slc8a3* | Sodium/calcium exchanger 3 |
|  | *Slc8b1* | Mitochondrial sodium/calcium exchanger protein |

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| **Таблица S2.** Коэкспрессия ДЭГ (15), вовлеченных в регуляцию кальциевых процессов в гиппокампе самцов мышей | | | | | | | | | | | | | | | |
|  | *Cacna1g* | *Cacnb3* | *Camk1g* | *Camk2d* | *Camk2n2* | *Caly* | *Caln1* | *S100a16* | *Slc24a4* | *Cacna2d1* | *Cacng5* | *Grin2a* | *Calm2* | *Cacna1a* | *Cacng2* |
| *Cacna1g* | 1,000 | **0,791\*** | **0,812\*\*** | **0,678\*** | **0,844\*\*** | 0,571 | **0,903\*\*\*** | **0,869\*\*** | **0,790\*** | -0,634 | -0,317 | **-0,670\*** | **-0,853\*\*** | 0,573 | 0,620 |
| *Cacnb3* | **0,791\*** | 1,000 | **0,796\*** | 0,375 | **0,795\*** | **0,828\*** | **0,826\*\*** | 0,581 | 0,533 | -0,622 | -0,345 | -0,468 | **-0,845\*\*** | **0,798\*** | **0,672\*** |
| *Camk1g* | **0,812\*\*** | **0,796\*** | 1,000 | 0,560 | **0,891\*\*** | 0,666 | **0,949\*\*\*** | **0,750\*** | 0,644 | **-0,830\*\*** | -0,398 | **-0,832\*\*** | **-0,927\*\*\*** | **0,689\*** | **0,826\*\*** |
| *Camk2d* | **0,678\*** | 0,375 | 0,560 | 1,000 | **0,697\*** | 0,449 | 0,648 | 0,559 | **0,721\*** | -0,308 | 0,250 | **-0,725\*** | **-0,703\*** | 0,640 | 0,228 |
| *Camk2n2* | **0,844\*\*** | **0,795\*** | **0,891\*\*** | **0,697\*** | 1,000 | 0,654 | **0,941\*\*\*** | **0,719\*** | 0,566 | **-0,783\*** | -0,137 | **-0,812\*\*** | **-0,953\*\*\*** | 0,640 | 0,651 |
| *Caly* | 0,571 | **0,828\*\*** | 0,666 | 0,449 | 0,654 | 1,000 | **0,697\*** | 0,504 | 0,547 | -0,448 | -0,140 | -0,542 | **-0,784\*** | 0,393 | 0,337 |
| *Caln1* | **0,903\*\*\*** | **0,826\*\*** | **0,949\*\*\*** | 0,648 | **0,941\*\*\*** | **0,697\*** | 1,000 | **0,851\*\*** | **0,719\*** | **-0,861\*\*** | **-0,283** | **-0,801\*\*** | **-0,942\*\*\*** | 0,608 | **0,671\*** |
| *S100a16* | **0,869\*\*** | 0,581 | **0,750\*** | 0,559 | **0,719\*** | 0,504 | **0,851\*\*** | 1,000 | **0,811\*\*** | **-0,715\*** | -0,444 | **-0,754\*** | **-0,756\*** | 0,276 | 0,441 |
| *Slc24a4* | **0,790\*** | 0,533 | 0,644 | **0,721\*** | 0,566 | 0,547 | **0,719\*** | **0,811\*\*** | 1,000 | -0,436 | -0,341 | -0,629 | **-0,704\*** | 0,182 | 0,365 |
| *Cacna2d1* | -0,634 | -0,622 | **-0,830\*\*** | -0,308 | **-0,783\*** | -0,448 | **-0,861\*\*** | **-0,715\*** | -0,436 | 1,000 | 0,332 | 0,644 | **0,717\*** | -0,564 | -0,607 |
| *Cacng5* | -0,317 | -0,345 | -0,398 | 0,250 | -0,137 | -0,140 | -0,283 | -0,444 | -0,341 | 0,332 | 1,000 | 0,228 | 0,287 | -0,438 | -0,599 |
| *Grin2a* | **-0,670\*** | -0,468 | **-0,832\*\*** | **-0,725\*** | -**0,812\*\*** | -0,542 | **-0,801\*\*** | **-0,754\*** | -0,629 | 0,644 | 0,228 | 1,000 | **0,851\*\*** | -0,271 | -0,541 |
| *Calm2* | **-0,853\*\*** | **-0,845\*\*** | **-0,927\*\*\*** | **-0,703\*** | **-0,953\*\*\*** | **-0,784\*** | **-0,942\*\*\*** | **-0,756\*** | **-0,704\*** | **0,717\*** | 0,287 | **0,851\*\*** | 1,000 | -0,614 | **-0,683\*** |
| *Cacna1a* | 0,573 | **0,798\*** | **0,689\*** | 0,640 | 0,640 | 0,393 | 0,608 | 0,276 | 0,182 | -0,564 | -0,438 | -0,271 | -0,614 | 1,000 | **0,883\*\*** |
| *Cacng2* | 0,620 | **0,672\*** | **0,826\*\*** | 0,228 | 0,651 | 0,337 | **0,671\*** | 0,441 | 0,365 | -0,607 | -0,599 | -0,541 | **-0,683\*** | **0,883\*\*** | 1,000 |
| *n* | 9 | 8 | 10 | 5 | 9 | 3 | 11 | 8 | 5 | 5 | 0 | 7 | 12 | 3 | 5 |
| **Примечание:** Приведены значения коэффициента корреляции Пирсона. Жирный шрифт - статистически значимые корреляции: \* - *p* < 0.05; \*\* - *p* < 0.01; \*\*\* *- p* < 0.001; *n* – количество значимых корреляций. | | | | | | | | | | | | | | | |