

List of Publications

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Journal Articles

- Gurfein, BT, Hasdemir B, Milush JM, **Touma C**, Palme R, Nixon DF, Hecht FM, Darcel N, Bhargava A (2017): Enriched environment and stress exposure influence splenic B lymphocyte composition. *PLoS One* 12(7): e0180771. Impact Factor: 4.1
- McIlwrick S, Pohl T, Chen A and **Touma C** (2017): Late-onset cognitive impairments after early-life stress are shaped by inherited differences in stress reactivity. *Frontiers in Cellular Neuroscience* 11: 9. Impact Factor: 4.6
- McIlwrick S, Rechenberg A, Matthes M, Burgstaller J, Schwarzbauer T, Chen A, **Touma C** (2016): Genetic predisposition for high stress reactivity amplifies effects of early-life adversity. *Psychoneuroendocrinology* 70: 85-97. Impact Factor: 5.8
- Surget A, van Nieuwenhuijzen PS, Heinzmann J-M, Knapman A, McIlwrick S, Westphal W-P, **Touma C***, Belzung C* (2016): Antidepressant treatment differentially affects the phenotype of high and low stress reactive mice. *Neuropharmacology* 110: 37-47. *equal contribution Impact Factor: 5.0
- Gaali S, Kirschner S, Cuboni S, Hartmann J, Kozany C, Balsevich G, Namendorf C, Fernandez-Vizarrá P, Sippel C, Zannas AS, Draenert R, Binder EB, Almeida OFX, Rühler G, Uhr M, Schmidt MV, **Touma C**, Bracher A, Hausch F (2015): Selective inhibitors of the FK506-binding protein 51 by induced fit. *Nature Chemical Biology* 11: 33-39. Impact Factor: 15.1
- Hennings JM, Uhr M, Klengel T, Weber P, Pütz B, **Touma C**, Czamara D, Ising M, Holsboer F, Lucae S (2015): RNA expression profiling in depressed patients suggests retinoid-related orphan receptor alpha as a biomarker for antidepressant response. *Translational Psychiatry* 5: e538. Impact Factor: 4.4
- Schmidt U, Buell DR, Ionescu IA, Gassen NC, Holsboer F, Cox MB, Novak B, Huber C, Hartmann J, Schmidt MV, **Touma C**, Rein T, Herrmann L (2015): A role for synapsin in FKBP51 modulation of stress responsiveness: Convergent evidence from animal and human studies. *Psychoneuroendocrinology* 52: 43-58. Impact Factor: 5.8
- Gurfein BT, Davidenko O, Premenko-Lanier M, Milush JM, Acree M, Dallman MF, **Touma C**, Palme R, York VA, Fromentin G, Darcel N, Nixon DF, Hecht FM (2014): Environmental enrichment alters splenic cell composition and enhances secondary influenza vaccine responses in mice. *Molecular Medicine* 20: 179-190. Impact Factor: 4.8
- Heinzmann JM, Kloiber S, Mattos GE, Bielohuby M, Schmidt MV, Palme R, Holsboer F, Uhr M, Ising M, **Touma C** (2014): Mice selected for extremes in stress reactivity reveal key endophenotypes of major depression: A translational approach. *Psychoneuroendocrinology* 49: 229-243. Impact Factor: 5.8

- Krohn J, Speed D, Palme R, **Touma C**, Mott R, Flint J (2014): Genetic interaction with sex make a relatively small contribution to the heritability of complex traits in mice. *PLoS ONE* 9 (5): e96450. Impact Factor: 4.1
- Sotnikov S, Wittmann A, Bunck M, Bauer S, Deussing J, Schmidt MV, **Touma C**, Landgraf R, Czibere L (2014): Blunted HPA axis reactivity reveals glucocorticoid system dysbalance in a mouse model of high anxiety-related behavior. *Psychoneuroendocrinology* 48: 41-51. Impact Factor: 5.8
- Buschert J, Hohoff C, **Touma C**, Palme R, Rothermundt M, Arolt V, Zhang W, Ambrée O (2013): S100B overexpression increases behavioral and neural plasticity in response to the social environment during adolescence. *Journal of Psychiatric Research* 47: 1791-1799. Impact Factor: 4.7
- Mattos GE, Heinzmann JM, Norkowski S, Helbling JC, Minni AM, Moisan MP, **Touma C** (2013): Corticosteroid-binding globulin contributes to the neuroendocrine phenotype of mice selected for extremes in stress reactivity. *Journal of Endocrinology* 219: 217-229. Impact Factor: 4.1
- Palme R, **Touma C**, Arias N, Dominchin MF, Lepschy M (2013): Steroid extraction: Get the best out of faecal samples. *Wiener Tierärztliche Monatsschrift – Veterinary Medicine Austria* 100: 238-246. Impact Factor: 0.4
- Voigt CC, Klöckner P, **Touma C**, Neuschl C, Brockmann G, Göritz F, Palme R, Thomsen R (2013): Hormonal stress response of laboratory mice to conventional and minimally invasive bleeding techniques. *Animal Welfare* 22: 449-455. Impact Factor: 1.4
- Breu J, **Touma C**, Hölter SM, Knapman A, Wurst W, Deussing J (2012): Urocortin 2 modulates aspects of social behaviour in mice. *Behavioural Brain Research* 233: 331-336. Impact Factor: 3.4
- Coudereau JP, Sreng L, Palme R, **Touma C**, Pratte M (2012): Do social statuses affect the startle reflex in male mice? *Behavioural Brain Research* 234: 117-120. Impact Factor: 3.4
- Dedic N*, **Touma C***, Romanowski CP, Schieven M, Kühne C, Ableitner M, Lu A, Holsboer F, Wurst W, Kimura M, Deussing JM (2012): Assessing behavioural effects of chronic HPA axis activation using conditional CRH-overexpressing mice. *Cellular and Molecular Neurobiology* 32: 815-828. *equal contribution Impact Factor: 2.0
- Gonik M, Frank E, Keßler MS, Czamara D, Bunck M, Yen YC, Pütz B, Holsboer F, Bettecken T, Landgraf R, Müller-Myhsok B, **Touma C**, Czibere L (2012): The endocrine stress response is linked to one specific locus on chromosome 3 in a mouse model based on extremes in trait anxiety. *BMC Genomics* 13: 579. Impact Factor: 4.1
- Gurfein BT, Stamm AW, Bacchetti P, Dallman MF, Nadkarni NA, Milush JM, **Touma C**, Palme R, Pozzo Di Borgo C, Fromentin G, Lown-Hecht R, Konsman JP, Acree M, Premenko-Lanier M, Darcel N, Hecht FM, Nixon DF (2012): The calm mouse: An

- animal model of stress reduction. *Molecular Medicine* 18: 606-617.
Impact Factor: 4.8
- Hartmann J, Wagner KV, Liebl C, Scharf SH, Wang XD, Wolf M, Hausch F, Rein T, Schmidt U, **Touma C**, Cheung-Flynn J, Cox MB, Smith DF, Holsboer F, Müller MB, Schmidt MV (2012): The involvement of FK506-binding protein 51 (FKBP5) in the behavioral and neuroendocrine effects of chronic social defeat stress. *Neuropharmacology* 62: 332-339.
Impact Factor: 4.8
- Knapman A, Kaltwasser SF, Martins-de-Souza D, Holsboer F, Landgraf R, Turck CW, Czisch M, **Touma C** (2012): Increased stress reactivity is associated with reduced hippocampal activity and neuronal integrity along with changes in energy metabolism. *European Journal of Neuroscience* 35: 412-422. EJN featured article Impact Factor: 3.6
- Kolbe T, Palme R, **Touma C**, Rüllicke T (2012): Repeated use of surrogate mothers for embryo transfer in the mouse. *Biology of Reproduction* 86: 19, 1-6.
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- Pillai AG, de Jong D, Kantsou S, Krugers H, Knapman A, Heinzmann JM, Holsboer F, Landgraf R, Joëls M, **Touma C** (2012): Dendritic morphology of hippocampal and amygdalar neurons in adolescent mice is resilient to genetic differences in stress reactivity. *PLoS ONE* 7 (6): e38971.
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- Edgar NM, **Touma C**, Palme R, Sibille E (2011): Resilient emotionality and molecular compensation in mice lacking the oligodendrocyte-specific gene *Cnp1*. *Translational Psychiatry* 1: e42.
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- Engel AKJ, Gross AN, Richter SH, Rommen J, **Touma C**, Würbel H (2011): Variation in stress reactivity affects cage-induced stereotypies in female CD-1 (ICR) mice. *Applied Animal Behaviour Science* 133: 101-108.
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- Fenzl T*, **Touma C***, Romanowski CP, Ruschel J, Holsboer F, Landgraf R, Kimura M, Yassouridis A (2011): Sleep disturbances in highly stress reactive mice: Modeling endophenotypes of major depression. *BMC Neuroscience* 12: 29. *equal contribution
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- Refojo D, Schweizer M, Kuehne C, Ehrenberg S, Thoeringer C, Vogl AM, Dedic N, Schumacher M, von Wolff G, Avrabos C, **Touma C**, Engblom D, Schütz G, Nave KA, Eder M, Wotjak CT, Sillaber I, Holsboer F, Wurst W, Deussing JM (2011): Glutamatergic and dopaminergic neurons mediate anxiogenic and anxiolytic effects of CRHR1. *Science* 333: 1903-1907.
Impact Factor: 31.2
- Richter SH, Garner JP, Zipser B, Lewejohann L, Sachser N, **Touma C**, Schindler B, Chourbaji S, Brandwein C, Gass P, van Stipdonk N, van der Harst J, Spruijt B, Voikar V, Wolfer DP, Würbel H (2011): Effect of population heterogenization on the reproducibility of mouse behavior: a multi-laboratory study. *PLoS ONE* 6 (1): e16461.
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- Surget A, Tanti A, Leonardo DE, Laugeray A, Rainer Q, **Touma C**, Palme R, Griebel G, Ibarguen-Vargas Y, Hen R, Belzung C (2011): Antidepressants recruit new neurons to

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- Touma C**, Gassen NC, Herrmann L, Cheung-Flynn J, Büll DR, Ionescu IA, Heinzmann JM, Knapman A, Siebertz A, Depping AM, Hartmann J, Hausch F, Schmidt MV, Holsboer F, Ising M, Cox MB, Schmidt U, Rein T (2011): FK506 binding protein 5 (FKBP5) shapes stress responsiveness: modulation of neuroendocrine reactivity and coping behavior. *Biological Psychiatry* 70: 928-936.
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- Varadarajulu J, Lebar M, Krishnamoorthy G, Habelt S, Lu J, Weinstein IB, Holsboer F, Turck CW, **Touma C** (2011): Increased anxiety-related behaviour in Hint1 knockout mice. *Behavioural Brain Research* 220: 305-311.
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- Adamson TW, Kendall LV, Goss S, Grayson K, **Touma C**, Palme R, Chen JQ, Borowsky AD (2010): Assessment of carprofen and buprenorphine on recovery of mice after surgical removal of the mammary fat pad. *Journal of the American Association for Laboratory Animal Science* 49: 610-616.
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- Fuss J, Ben Abdallah NM, Vogt MA, **Touma C**, Pacifici PG, Palme R, Witzemann V, Hellweg R, Gass P (2010): Voluntary exercise induces anxiety-related behaviour in adult C57BL/6J mice correlating with hippocampal neurogenesis. *Hippocampus* 20: 364-376.
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- Heinzmann JM, Thoeringer CK, Knapman A, Palme R, Holsboer F, Uhr M, Landgraf R, **Touma C** (2010): Intrahippocampal corticosterone dynamics in mice selectively bred for extremes in stress reactivity: a microdialysis study. *Journal of Neuroendocrinology* 22: 1187-1197.
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- Jansen F, Heiming RS, Lewejohann L, **Touma C**, Palme R, Schmitt A, Lesch KP, Sachser N (2010): Modulation of behavioural profile and stress response by 5-HTT genotype and social experience in adulthood. *Behavioural Brain Research* 207: 21-29.
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- Knapman A, Heinzmann JM, Hellweg R, Holsboer F, Landgraf R, **Touma C** (2010): Increased stress reactivity is associated with cognitive deficits and decreased hippocampal brain-derived neurotrophic factor in a mouse model of affective disorders. *Journal of Psychiatric Research* 44: 566-575.
Impact Factor: 4.7
- Knapman A, Heinzmann JM, Holsboer F, Landgraf R, **Touma C** (2010): Modeling psychotic and cognitive symptoms of affective disorders: disrupted latent inhibition and reversal learning deficits in highly stress reactive mice. *Neurobiology of Learning and Memory* 94: 145-152.
Impact Factor: 3.4
- Lepschy M, **Touma C**, Palme R (2010): Faecal glucocorticoid metabolites: how to express yourself – comparison of absolute amounts versus concentrations in samples from a study in laboratory rats. *Laboratory Animals* 44: 192-198.
Impact Factor: 1.2
- Nicholson A, Malcom RD, **Touma C**, Palme R, Wiles MV (2010): Response to Drs Foltz and DeLong's letter to the Editor. *Journal of the American Association for Laboratory Animal Science* 49: 136-137.
Impact Factor: 1.1

- Blottner D, Serradj N, Salanova M, **Touma C**, Palme R, Silva M, Aerts JM, Berckmans D, Vico L, Liu Y, Guiliani A, Rustichelli F, Cancedda R, Jamon M (2009): Morphological, physiological and behavioural evaluation of a 'Mice in Space' housing system. *Journal of Comparative Physiology B* 179: 519-533. Impact Factor: 2.0
- Nicholson A, Malcom RD, Russ PL, Cough K, **Touma C**, Palme R, Wiles MV (2009): The response of C57BL/6J and BALB/cJ mice to increased housing density. *Journal of the American Association for Laboratory Animal Science* 48: 740-753. Impact Factor: 1.1
- Touma C**, Fenzl T, Ruschel J, Palme R, Holsboer F, Kimura M, Landgraf R (2009): Rhythmicity in mice selected for extremes in stress reactivity: behavioural, endocrine and sleep changes resembling endophenotypes of major depression. *PLoS ONE* 4 (1): e4325. Impact Factor: 4.1
- Ibarguen-Vargas Y, Surget A, **Touma C**, Palme R, Belzung C (2008): Multifaceted strain-specific effects in a mouse model of depression and of antidepressant reversal. *Psychoneuroendocrinology* 33: 1357-1368. Impact Factor: 5.8
- Lepschy M, Rettenbacher S, **Touma C**, Palme R (2008): Excretion of catecholamines in rats, mice and chicken. *Journal of Comparative Physiology B* 178: 629-636. Impact Factor: 2.0
- Richter H, Ambrée O, Lewejohann L, Herring A, Keyvani K, Paulus W, Palme R, **Touma C**, Schäbitz WR, Sachser N (2008): Wheel running in a transgenic mouse model of Alzheimer's disease: protection or symptom? *Behavioural Brain Research* 190: 74-84. Impact Factor: 3.4
- Touma C**, Bunck M, Glasl L, Nussbaumer M, Palme R, Stein H, Wolferstätter M, Zeh R, Zimbelmann M, Holsboer F, Landgraf R (2008): Mice selected for high versus low stress reactivity: a new animal model for affective disorders. *Psychoneuroendocrinology* 33: 839-862. Impact Factor: 5.8
- Lepschy M, **Touma C**, Hruby R, Palme R (2007): Non-invasive measurement of adrenocortical activity in male and female rats. *Laboratory Animals* 41: 372-387. Impact Factor: 1.2
- Ambrée O, **Touma C**, Görtz N, Keyvani K, Paulus W, Palme R, Sachser N (2006): Activity changes and marked stereotypic behavior precede A² pathology in TgCRND8 Alzheimer mice. *Neurobiology of Aging* 27: 955-964. Impact Factor: 6.2
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- Touma C**, Palme R, Sachser N (2004): Analyzing corticosterone metabolites in fecal samples of mice: a noninvasive technique to monitor stress hormones. *Hormones and Behavior* 45: 10-22. Impact Factor: 3.9
- Touma C**, Sachser N, Möstl E, Palme R (2003): Effects of sex and time of day on metabolism and excretion of corticosterone in urine and feces of mice. *General and Comparative Endocrinology* 130: 267-278. Impact Factor: 3.3
- Touma C**, Palme R, Sachser N (2001): Different types of oestrous cycles in two closely related South American rodents (*Cavia aperea* and *Galea musteloides*) differing in social and mating systems. *Reproduction* 121: 791-801. Impact Factor: 3.1

Review Articles

- Touma C** (2011): Stress and affective disorders: animal models elucidating the molecular basis of neuroendocrine-behavior interactions. Supplement 'Systems Biology of Affective Disorders', *Pharmacopsychiatry* 44 (Suppl 1): S15-S26. Impact Factor: 2.1
- Touma C**, Palme R (2005): Measuring fecal glucocorticoid metabolites in mammals and birds: the importance of validation. *Annals of the New York Academy of Sciences* 1046: 54-74. Impact Factor: 3.2
- Palme R., Rettenbacher S, **Touma C**, El Bahr S, Möstl E (2005): Stress hormones in mammals and birds: Comparative aspects regarding metabolism, excretion and noninvasive measurement in fecal samples. In: Trends in Comparative Endocrinology and Neurobiology. *Annals of the New York Academy of Sciences* 1040: 162-171. Impact Factor: 3.2

Book Chapters and Editorials

- Hamsch B, Czibere L, Landgraf R, **Touma C** (2009): Genetic transmission of behavior and its neuroendocrine correlates. In: Pfaff D, Arnold AP, Etgen AM, Fahrbach SE, Rubin RT (Eds.): *Hormones, Brain and Behavior* 2nd ed., Elsevier Science, San Diego CA, USA, Volume 4, Chapter 84, pp. 2633-2671.
- Kaiser S, **Touma C**, Galert T, Würbel H (2008): Animal suffering – fact or fiction? In: Müller K, Sachser N (Eds.): *Theology Meets Biology – Anthropological Perspectives on Animals and Human Beings*. Pustet Verlag, Regensburg, pp. 123-136.

Jömann N, Junker C, **Touma C** (Eds.) (2004): Religion - wieso, weshalb, warum? Zur Funktion von Religion aus soziologischer, biologischer, philosophischer und theologischer Sicht. Reihe: Edition KSHG, Bd. 3, 160 Seiten, LIT Verlag Münster-Hamburg-Berlin-Wien-London.

Touma C, Kurt F (2001): Ethologische Untersuchungen zur Musth bei Elefantenbullen in Menschenhand. In: Kurt F (Ed.): *Elefant in Menschenhand – Forschungsberichte aus Sri Lanka*. Filander Verlag, Fürth, pp. 185-196.