

## Hallucinogens for the Depressed, Anti-Hallucinogens for the Psychotic

- Alamian, G., Hincapié, A. S., Combrisson, E., Thiery, T., Martel, V., Althukov, D., & Jerbi, K. (2017). Alterations of Intrinsic Brain Connectivity Patterns in Depression and Bipolar Disorders: A Critical Assessment of Magnetoencephalography-Based Evidence. *Frontiers in psychiatry*, 8, 41. <https://doi.org/10.3389/fpsyt.2017.00041>
- Basso, L., Bönke, L., Aust, S., Gärtner, M., Heuser-Collier, I., Otte, C., Wingenfeld, K., Bajbouj, M., & Grimm, S. (2020). Antidepressant and neurocognitive effects of serial ketamine administration versus ECT in depressed patients. *Journal of psychiatric research*, 123, 1–8. <https://doi.org/10.1016/j.jpsychires.2020.01.002>
- Blumberger, D. M., Vila-Rodriguez, F., Thorpe, K. E., Feffer, K., Noda, Y., Giacobbe, P., Knyahnytska, Y., Kennedy, S. H., Lam, R. W., Daskalakis, Z. J., & Downar, J. (2018). Effectiveness of theta burst versus high-frequency repetitive transcranial magnetic stimulation in patients with depression (THREE-D): a randomised non-inferiority trial. *Lancet (London, England)*, 391(10131), 1683–1692. [https://doi.org/10.1016/S0140-6736\(18\)30295-2](https://doi.org/10.1016/S0140-6736(18)30295-2)
- Bodick, N. C., Offen, W. W., Shannon, H. E., Satterwhite, J., Lucas, R., van Lier, R., & Paul, S. M. (1997). The selective muscarinic agonist xanomeline improves both the cognitive deficits and behavioral symptoms of Alzheimer disease. *Alzheimer disease and associated disorders*, 11 Suppl 4, S16–S22.
- Brannan, S. K., Sawchak, S., Miller, A. C., Lieberman, J. A., Paul, S. M., & Breier, A. (2021). Muscarinic Cholinergic Receptor Agonist and Peripheral Antagonist for Schizophrenia. *The New England journal of medicine*, 384(8), 717–726. <https://doi.org/10.1056/NEJMoa2017015>
- Cappon, D., den Boer, T., Jordan, C., Yu, W., Metzger, E., & Pascual-Leone, A. (2022). Transcranial magnetic stimulation (TMS) for geriatric depression. *Ageing research reviews*, 74, 101531. <https://doi.org/10.1016/j.arr.2021.101531>
- Carbonaro, T. M., Bradstreet, M. P., Barrett, F. S., MacLean, K. A., Jesse, R., Johnson, M. W., & Griffiths, R. R. (2016). Survey study of challenging experiences after ingesting psilocybin mushrooms: Acute and enduring positive and negative consequences. *Journal of psychopharmacology (Oxford, England)*, 30(12), 1268–1278. <https://doi.org/10.1177/0269881116662634>
- Carhart-Harris, R. L., Bolstridge, M., Day, C. M. J., Rucker, J., Watts, R., Erritzoe, D. E., Kaelen, M., Giribaldi, B., Bloomfield, M., Pilling, S., Rickard, J. A., Forbes, B., Feilding, A., Taylor, D., Curran, H. V., & Nutt, D. J. (2018). Psilocybin with psychological support for treatment-resistant depression: six-month follow-up. *Psychopharmacology*, 235(2), 399–408. <https://doi.org/10.1007/s00213-017-4771-x>
- Carhart-Harris, R., Giribaldi, B., Watts, R., Baker-Jones, M., Murphy-Beiner, A., Murphy, R., Martell, J., Blemings, A., Erritzoe, D., & Nutt, D. J. (2021). Trial of Psilocybin versus Escitalopram for Depression. *The New England journal of medicine*, 384(15), 1402–1411. <https://doi.org/10.1056/NEJMoa2032994>
- Cole, E. J., Phillips, A. L., Bentzley, B. S., Stimpson, K. H., Nejad, R., Barmak, F., Veerapal, C., Khan, N., Cherian, K., Felber, E., Brown, R., Choi, E., King, S., Pankow, H., Bishop, J. H., Azeez, A., Coetzee, J., Rapier, R., Odenwald, N., Carreon, D., ... Williams, N. R. (2022). Stanford Neuromodulation Therapy (SNT): A Double-Blind Randomized Controlled Trial. *The American journal of psychiatry*, 179(2), 132–141. <https://doi.org/10.1176/appi.ajp.2021.20101429>
- Cole, J., Sohn, M. N., Harris, A. D., Bray, S. L., Patten, S. B., & McGirr, A. (2022). Efficacy of Adjunctive D-Cycloserine to Intermittent Theta-Burst Stimulation for Major Depressive Disorder: A Randomized Clinical Trial. *JAMA psychiatry*, 79(12), 1153–1161. <https://doi.org/10.1001/jamapsychiatry.2022.3255>
- Correll, C. U., Solmi, M., Cortese, S., Fava, M., Højlund, M., Kraemer, H. C., McIntyre, R. S., Pine, D. S., Schneider, L. S., & Kane, J. M. (2023). The future of psychopharmacology: a critical appraisal of ongoing phase 2/3 trials, and of some current trends aiming to de-risk trial programmes of novel agents. *World psychiatry : official journal of the World Psychiatric Association (WPA)*, 22(1), 48–74. <https://doi.org/10.1002/wps.21056>

## Hallucinogens for the Depressed, Anti-Hallucinogens for the Psychotic

- Cristancho, P., Kamel, L., Araque, M., Berger, J., Blumberger, D. M., Miller, J. P., Barch, D. M., & Lenze, E. J. (2020). iTBS to Relieve Depression and Executive Dysfunction in Older Adults: An Open Label Study. *The American journal of geriatric psychiatry : official journal of the American Association for Geriatric Psychiatry*, 28(11), 1195–1199. <https://doi.org/10.1016/j.jagp.2020.03.001>
- Davis, A. K., Barrett, F. S., May, D. G., Cosimano, M. P., Sepeda, N. D., Johnson, M. W., Finan, P. H., & Griffiths, R. R. (2021). Effects of Psilocybin-Assisted Therapy on Major Depressive Disorder: A Randomized Clinical Trial. *JAMA psychiatry*, 78(5), 481–489. <https://doi.org/10.1001/jamapsychiatry.2020.3285>
- Ekstrand, J., Fattah, C., Persson, M., Cheng, T., Nordanskog, P., Åkeson, J., Tingström, A., Lindström, M. B., Nordenskjöld, A., & Movahed Rad, P. (2022). Racemic Ketamine as an Alternative to Electroconvulsive Therapy for Unipolar Depression: A Randomized, Open-Label, Non-Inferiority Trial (KetECT). *The international journal of neuropsychopharmacology*, 25(5), 339–349. <https://doi.org/10.1093/ijnp/pyab088>
- Elbau, I. G., Lynch, C. J., Downar, J., Vila-Rodriguez, F., Power, J. D., Solomonov, N., Daskalakis, Z. J., Blumberger, D. M., & Liston, C. (2023). Functional Connectivity Mapping for rTMS Target Selection in Depression. *The American journal of psychiatry*, 180(3), 230–240. <https://doi.org/10.1176/appi.ajp.20220306>
- Fleischhacker, W. W., Podhorna, J., Gröschl, M., Hake, S., Zhao, Y., Huang, S., Keefe, R. S. E., Desch, M., Brenner, R., Walling, D. P., Mantero-Atienza, E., Nakagome, K., & Pollentier, S. (2021). Efficacy and safety of the novel glycine transporter inhibitor BI 425809 once daily in patients with schizophrenia: a double-blind, randomised, placebo-controlled phase 2 study. *The lancet. Psychiatry*, 8(3), 191–201. [https://doi.org/10.1016/S2215-0366\(20\)30513-7](https://doi.org/10.1016/S2215-0366(20)30513-7)
- Goodwin, G. M., Aaronson, S. T., Alvarez, O., Arden, P. C., Baker, A., Bennett, J. C., Bird, C., Blom, R. E., Brennan, C., Bruschi, D., Burke, L., Campbell-Coker, K., Carhart-Harris, R., Cattell, J., Daniel, A., DeBattista, C., Dunlop, B. W., Eisen, K., Feifel, D., Forbes, M., ... Malievskaia, E. (2022). Single-Dose Psilocybin for a Treatment-Resistant Episode of Major Depression. *The New England journal of medicine*, 387(18), 1637–1648. <https://doi.org/10.1056/NEJMoa2206443>
- Gunduz-Bruce, H., Silber, C., Kaul, I., Rothschild, A. J., Riesenberger, R., Sankoh, A. J., Li, H., Lasser, R., Zorumski, C. F., Rubinow, D. R., Paul, S. M., Jonas, J., Doherty, J. J., & Kaner, S. J. (2019). Trial of SAGE-217 in Patients with Major Depressive Disorder. *The New England journal of medicine*, 381(10), 903–911. <https://doi.org/10.1056/NEJMoa1815981>
- Iosifescu, D. V., Jones, A., O'Gorman, C., Streicher, C., Feliz, S., Fava, M., & Tabuteau, H. (2022). Efficacy and Safety of AXS-05 (Dextromethorphan-Bupropion) in Patients With Major Depressive Disorder: A Phase 3 Randomized Clinical Trial (GEMINI). *The Journal of clinical psychiatry*, 83(4), 21m14345. <https://doi.org/10.4088/JCP.21m14345>
- Jha, M. K., & Mathew, S. J. (2023). Pharmacotherapies for Treatment-Resistant Depression: How Antipsychotics Fit in the Rapidly Evolving Therapeutic Landscape. *The American journal of psychiatry*, 180(3), 190–199. <https://doi.org/10.1176/appi.ajp.20230025>
- Karuna Therapeutics. (2022). Topline results: Phase 3 EMERGENT-2 trial of KarXT in schizophrenia.
- Karuna Therapeutics. (2023). Karuna Therapeutics Announces Positive Results from Phase 3 EMERGENT-3 Trial of KarXT in Schizophrenia.
- Kheirabadi, D., Kheirabadi, G. R., Mirlohi, Z., Tarrahi, M. J., & Norbaksh, A. (2020). Comparison of Rapid Antidepressant and Antisuicidal Effects of Intramuscular Ketamine, Oral Ketamine, and Electroconvulsive Therapy in Patients With Major Depressive Disorder: A Pilot Study. *Journal of clinical psychopharmacology*, 40(6), 588–593. <https://doi.org/10.1097/JCP.0000000000001289>

## Hallucinogens for the Depressed, Anti-Hallucinogens for the Psychotic

- Kheirabadi, G., Vafaie, M., Kheirabadi, D., Mirlouhi, Z., & Hajiannasab, R. (2019). Comparative Effect of Intravenous Ketamine and Electroconvulsive Therapy in Major Depression: A Randomized Controlled Trial. *Advanced biomedical research*, 8, 25. [https://doi.org/10.4103/abr.abr\\_166\\_18](https://doi.org/10.4103/abr.abr_166_18)
- Kirkovski, M., Donaldson, P. H., Do, M., Speranza, B. E., Albein-Urios, N., Oberman, L. M., & Enticott, P. G. (2023). A systematic review of the neurobiological effects of theta-burst stimulation (TBS) as measured using functional magnetic resonance imaging (fMRI). *Brain structure & function*, 228(3-4), 717–749. <https://doi.org/10.1007/s00429-023-02634-x>
- Lenze, E. J., Mulsant, B. H., Roose, S. P., Lavretsky, H., Reynolds, C. F., 3rd, Blumberger, D. M., Brown, P. J., Cristancho, P., Flint, A. J., Gebara, M. A., Gettinger, T. R., Lenard, E., Miller, J. P., Nicol, G. E., Oughli, H. A., Pham, V. T., Rollman, B. L., Yang, L., & Karp, J. F. (2023). Antidepressant Augmentation versus Switch in Treatment-Resistant Geriatric Depression. *The New England journal of medicine*, 388(12), 1067–1079. <https://doi.org/10.1056/NEJMoa2204462>
- Lorentzen, R., Nguyen, T. D., McGirr, A., Hieronymus, F., & Østergaard, S. D. (2022). The efficacy of transcranial magnetic stimulation (TMS) for negative symptoms in schizophrenia: a systematic review and meta-analysis. *Schizophrenia (Heidelberg, Germany)*, 8(1), 35. <https://doi.org/10.1038/s41537-022-00248-6>
- Marwaha, S., Palmer, E., Suppes, T., Cons, E., Young, A. H., & Upthegrove, R. (2023). Novel and emerging treatments for major depression. *Lancet (London, England)*, 401(10371), 141–153. [https://doi.org/10.1016/S0140-6736\(22\)02080-3](https://doi.org/10.1016/S0140-6736(22)02080-3)
- Nagele, P., Duma, A., Kopec, M., Gebara, M. A., Parsoei, A., Walker, M., Janski, A., Panagopoulos, V. N., Cristancho, P., Miller, J. P., Zorumski, C. F., & Conway, C. R. (2015). Nitrous Oxide for Treatment-Resistant Major Depression: A Proof-of-Concept Trial. *Biological psychiatry*, 78(1), 10–18. <https://doi.org/10.1016/j.biopsych.2014.11.016>
- Nagele, P., Palanca, B. J., Gott, B., Brown, F., Barnes, L., Nguyen, T., Xiong, W., Salloum, N. C., Espejo, G. D., Lessov-Schlaggar, C. N., Jain, N., Cheng, W. W. L., Komen, H., Yee, B., Bolzenius, J. D., Janski, A., Gibbons, R., Zorumski, C. F., & Conway, C. R. (2021). A phase 2 trial of inhaled nitrous oxide for treatment-resistant major depression. *Science translational medicine*, 13(597), eabe1376. <https://doi.org/10.1126/scitranslmed.abe1376>
- Paul, S. M., Yohn, S. E., Popiolek, M., Miller, A. C., & Felder, C. C. (2022). Muscarinic Acetylcholine Receptor Agonists as Novel Treatments for Schizophrenia. *The American journal of psychiatry*, 179(9), 611–627. <https://doi.org/10.1176/appi.ajp.21101083>
- Price, R. B., Spotts, C., Panny, B., Griffio, A., Degutis, M., Cruz, N., Bell, E., Do-Nguyen, K., Wallace, M. L., Mathew, S. J., & Howland, R. H. (2022). A Novel, Brief, Fully Automated Intervention to Extend the Antidepressant Effect of a Single Ketamine Infusion: A Randomized Clinical Trial. *The American journal of psychiatry*, 179(12), 959–968. <https://doi.org/10.1176/appi.ajp.20220216>
- Rhee, T. G., Shim, S. R., Forester, B. P., Nierenberg, A. A., McIntyre, R. S., Papakostas, G. I., Krystal, J. H., Sanacora, G., & Wilkinson, S. T. (2022). Efficacy and Safety of Ketamine vs Electroconvulsive Therapy Among Patients With Major Depressive Episode: A Systematic Review and Meta-analysis. *JAMA psychiatry*, 79(12), 1162–1172. <https://doi.org/10.1001/jamapsychiatry.2022.3352>
- Rosenbrock, H., Desch, M., & Wunderlich, G. (2023). Development of the novel GlyT1 inhibitor, iclepertin (BI 425809), for the treatment of cognitive impairment associated with schizophrenia. *European archives of psychiatry and clinical neuroscience*, 10.1007/s00406-023-01576-z. Advance online publication. <https://doi.org/10.1007/s00406-023-01576-z>
- Sachs, G. S., Yeung, P. P., Reveda, L., Khan, A., Adams, J. L., & Fava, M. (2023). Adjunctive Cariprazine for the Treatment of Patients With Major Depressive Disorder: A Randomized, Double-Blind, Placebo-Controlled Phase 3 Study. *The American journal of psychiatry*, 180(3), 241–251. <https://doi.org/10.1176/appi.ajp.20220504>

## Hallucinogens for the Depressed, Anti-Hallucinogens for the Psychotic

- Sage Therapeutics; Biogen. (2022). Investor Webcast on Potential Commercialization of Zuranolone.
- Sauder, C., Allen, L. A., Baker, E., Miller, A. C., Paul, S. M., & Brannan, S. K. (2022). Effectiveness of KarXT (xanomeline-trospium) for cognitive impairment in schizophrenia: post hoc analyses from a randomised, double-blind, placebo-controlled phase 2 study. *Translational psychiatry*, 12(1), 491. <https://doi.org/10.1038/s41398-022-02254-9>
- Savitz, A., Wajs, E., Zhang, Y., Xu, H., Etropolski, M., Thase, M. E., & Drevets, W. C. (2021). Efficacy and Safety of Seltorexant as Adjunctive Therapy in Major Depressive Disorder: A Phase 2b, Randomized, Placebo-Controlled, Adaptive Dose-Finding Study. *The international journal of neuropsychopharmacology*, 24(12), 965–976. <https://doi.org/10.1093/ijnp/pyab050>
- Scammell, T. E., & Saper, C. B. (2007). Orexins: looking forward to sleep, back at addiction. *Nature medicine*, 13(2), 126–128. <https://doi.org/10.1038/nm0207-126>
- Scangos, K. W., State, M. W., Miller, A. H., Baker, J. T., & Williams, L. M. (2023). New and emerging approaches to treat psychiatric disorders. *Nature medicine*, 29(2), 317–333. <https://doi.org/10.1038/s41591-022-02197-0>
- Shekhar, A., Potter, W. Z., Lightfoot, J., Lienemann, J., Dubé, S., Mallinckrodt, C., Bymaster, F. P., McKinzie, D. L., & Felder, C. C. (2008). Selective muscarinic receptor agonist xanomeline as a novel treatment approach for schizophrenia. *The American journal of psychiatry*, 165(8), 1033–1039. <https://doi.org/10.1176/appi.ajp.2008.06091591>
- Tabuteau, H., Jones, A., Anderson, A., Jacobson, M., & Iosifescu, D. V. (2022). Effect of AXS-05 (Dextromethorphan-Bupropion) in Major Depressive Disorder: A Randomized Double-Blind Controlled Trial. *The American journal of psychiatry*, 179(7), 490–499. <https://doi.org/10.1176/appi.ajp.21080800>
- Tseng, P. T., Zeng, B. S., Hung, C. M., Liang, C. S., Stubbs, B., Carvalho, A. F., Brunoni, A. R., Su, K. P., Tu, Y. K., Wu, Y. C., Chen, T. Y., Li, D. J., Lin, P. Y., Hsu, C. W., Chen, Y. W., Suen, M. W., Satogami, K., Takahashi, S., Wu, C. K., Yang, W. C., ... Li, C. T. (2022). Assessment of Noninvasive Brain Stimulation Interventions for Negative Symptoms of Schizophrenia: A Systematic Review and Network Meta-analysis. *JAMA psychiatry*, 79(8), 770–779. <https://doi.org/10.1001/jamapsychiatry.2022.1513>
- Zhang, X., Yang, X., Shi, Z., Xu, R., Tan, J., Yang, J., Huang, X., Huang, X., & Zheng, W. (2023). A Systematic Review of Intermittent Theta Burst Stimulation for Neurocognitive Dysfunction in Older Adults with Schizophrenia. *Journal of personalized medicine*, 13(3), 485. <https://doi.org/10.3390/jpm13030485>