



MDMA (3G8): sc-57908

BACKGROUND

MDMA (3,4-methylenedioxy-N-methylamphetamine), most widely known by the street name ecstasy, serves as a semisynthetic entactogen of the phenethylamine family. MDMA stimulates the secretion of serotonin, coupled with the inhibition of serotonin, dopamine and norepinephrine re-uptake in the brain. MDMA induces a broad sense of impartiality, compassion, energy, euphoria and well-being. The reported capability of MDMA to promote self-examination with reduced anxiety may be useful in some therapeutic settings. MDMA reaches maximal concentrations in the blood in 1.5-3 hours after ingestion. It is then slowly metabolized and excreted, with levels decreasing to half their peak concentration over approximately 8 hours. *In vitro* and non-human animal studies have established that MDMA also induces dopamine, norepinephrine and acetylcholine release and can act directly on a number of receptors, including α 2-adrenergic (adrenaline) and 5HT2A (serotonin) receptors. MDMA promotes the release of several hormones, including prolactin and the antidiuretic hormone vasopressin. MDMA, molecular weight of 193.25 g/mol, is a chiral compound that is usually only administered as a racemate.

REFERENCES

1. Kalant, H. 2001. The pharmacology and toxicology of "ecstasy" (MDMA) and related drugs. *CMAJ* 165: 917-928.
2. Chipana, C., Camarasa, J., Pubill, D. and Escubedo, E. 2006. Protection against MDMA-induced dopaminergic neurotoxicity in mice by methyllycaconitine: involvement of nicotinic receptors. *Neuropharmacology* 51: 885-895.
3. Clemens, K.J., Cornish, J.L., Hunt, G.E. and McGregor, I.S. 2006. Repeated weekly exposure to MDMA, methamphetamine or their combination: long-term behavioural and neurochemical effects in rats. *Drug Alcohol Depend.* 86: 183-190.
4. Ball, K.T., Budreau, D. and Rebec, G.V. 2006. Context-dependent behavioral and neuronal sensitization in striatum to MDMA (ecstasy) administration in rats. *Eur. J. Neurosci.* 24: 217-28.
5. Pirnay, S.O., Abraham, T.T. and Huestis, M.A. 2006. Sensitive gas chromatography-mass spectrometry method for simultaneous measurement of MDEA, MDMA and metabolites HMA, MDA and HMMA in human urine. *Clin. Chem.* 52: 1728-1734.
6. Risbrough, V.B., Masten, V.L., Caldwell, S., Paulus, M.P., Low, M.J. and Geyer, M.A. 2006. Differential contributions of dopamine D1, D2 and D3 receptors to MDMA-induced effects on locomotor behavior patterns in mice. *Neuropsychopharmacology* 31: 2349-2358.
7. Teng, S.F., Wu, S.C., Liu, C., Li, J.H. and Chien, C.S. 2006. Characteristics and trends of 3,4-methylenedioxymethamphetamine (MDMA) tablets found in Taiwan from 2002 to February 2005. *Forensic Sci. Int.* 161: 202-208.
8. Brevard, M.E., Meyer, J.S., Harder, J.A. and Ferris, C.F. 2006. Imaging brain activity in conscious monkeys following oral MDMA. *Magn. Reson. Imaging.* 24: 707-714.

SOURCE

MDMA (3G8) is a mouse monoclonal antibody raised against MDMA conjugated to bovine thyroglobulin.

PRODUCT

Each vial contains 100 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MDMA (3G8) is recommended for detection of MDMA by solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.