HO
$$CO_2H$$
 HO $CO_2^{\bigoplus}N_a^{\bigoplus}$

sodium 4-hydroxybutanoate
or sodium γ -hydroxybutyrate
(GHB)

 O
 γ -butyrolactone

Gamma hydroxybutyrate (GHB) is a powerful, rapidly acting central nervous system depressant. It was first synthesized in the 1920s and was under development as an anesthetic agent in the 1960s. GHB is produced naturally by the body in small amounts but its physiological function is unclear.

GHB was sold in health food stores as a performance enhancing additive in bodybuilding formulas until the Food and Drug Administration (FDA) banned it in 1990. It is currently marketed in some European countries as an adjunct to anesthesia. GHB is abused for its ability to produce euphoric and hallucinogenic states and for its alleged function as a growth hormone that releases agents to stimulate muscle growth. GHB became a Schedule I Controlled Substance in March 2000.

Gamma butyrolactone (GBL) and 1,4-butanediol are analogs of GHB that can be substituted for it. Once ingested, these analogs convert to GHB and produce identical effects. GBL, an industrial solvent, is used as an immediate precursor in the clandestine production of GHB. The FDA has issued warnings for both GBL and 1,4-butanediol, stating that the drugs have a potential for abuse and are a public health danger.

Consumption of less than 1 gram of GHB acts as a relaxant, causing a loss of muscle tone and reduced inhibitions. Consumption of 1 to 2 grams causes a strong feeling of relaxation and slows the heart rate and respiration. At this dosage level, GHB also interferes with blood circulation, motor coordination, and balance. In stronger doses, 2 to 4 grams, pronounced interference with motor and speech control occurs. A coma-like sleep may be induced, requiring intubation to wake the user. When mixed with alcohol, the depressant effects of GHB are enhanced. This can lead to respiratory depression, unconsciousness, amnesia and coma.