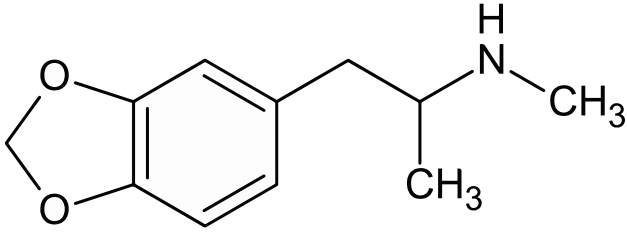
MDMA
QTest



- INSTRUCTION MANUAL -

FIRST QUANTITATIVE MDMA TEST KIT
FOR DETERMINING THE POTENCY OF MDMA IN PILLS, POWDERS, AND CRYSTALS, AS WELL AS DETECTION OF MISLABELED SUBSTANCES SUCH AS AMPHETHAMINE AND 2C-B

(Basic kit)

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DISTINCTION BETWEEN MDMA AND MDA, EVEN IN MIXTURES, THROUGH POSITIVE CONTROL (DETECTION OF SECONDARY AMINES) AND NEGATIVE CONTROL (DETECTION OF PRIMARY AMINES)

(Advanced kit)

IMPORTANT INFORMATION - READ THIS FIRST!

- Before using the MDMA Basic kit: make sure it is an MDMA sample, as MDA, 6-APB, or 5-MAPB can produce a similar color reaction.
- Use this kit at room temperature (if stored in a refrigerator, let it warm up for an hour first).
- Perform the test on a flat surface during the daytime (in a well-ventilated area).
- The evaluation should be performed in daylight and immediately after the 12-minute development time (the color can change if you wait too long and therefore no longer reliable).
- Use a white A4 sheet of paper as a background when evaluating the color (see section 4 for evaluation details).
- The testing procedure is only suitable for the determination of solid or powdery substances such as pills or crystals and not for liquid samples.
- Each QTest (reagents packed in a zip-lock bag) is intended for single use only.
- Read all instructions at least once before starting the test.

INSTRUCTIONS FOR USE

1. IMPORTANT BACKGROUND INFORMATION

MDMA, commonly known as ecstasy, is typically found in pill, powder, or crystal form. The QTest allows for the detection of MDMA and its concentration in unknown substance samples, including filled and colored tablets, powders, and crystals. However, it's important to note that not all substances marketed as MDMA are pure or have any MDMA; many may contain other chemicals that can alter their effects and pose increased risks to users. This kit can also identify mislabeled samples containing other substances such as 2C-B and amphetamines.

Two substances frequently misrepresented as MDMA are MDA and 6-APB. While chemically similar to MDMA, they differ in effects and risk profiles, which can be concerning for users who are unaware of what they are consuming. If you are performing a Basic kit please be aware that MDA and 6-APB produce similar purple color reactions. It is recommended to confirm that a sample is indeed MDMA before proceeding with a basic analysis, typically done using traditional reagents.

The MDMA Advanced kit, however, includes two additional color reactions that differentiate between MDMA and its analogs, MDA and 6-APB, providing users with more informational results.

We strongly recommend combining our MDMA-QTest with our Bath Salt Legal High (Synthetic Cathinones) DTect to accurately detect the presence of synthetic cathinones. These substances, often used as adulterants, can mimic stimulant effects but pose significant health risks. Using both tests ensures comprehensive safety by identifying potentially dangerous substances mixed with MDMA.

2. PREPARING FOR THE TEST

Take out all the items from your kit. Together with these instructions you should have:

Per box:

- One pair of protective gloves
- One evaluation color chart with quick reference guide

Per test: single-use application (Basic Kit):

- Extraction vessel with two-phase liquid and black cap (extraction vessel)
- Large detection glass vial with a white cap (detection vial)
- Pipet
- Small ziplock bag

Additionally included in the MDMA Advanced Kit:

- Dropper bottle with screw cap and colored lid
- Small vial with slightly orange liquid and red cap
- Small vial with slightly orange liquid and blue cap

You will also need a milligram scale (make sure that your scale can weigh small quantities safely and follow the tips for the most accurate weighing result) and either a small funnel or a creased piece of paper to carefully pour the sample material into the extraction vial. (You can make your own paper funnel. Google it!)

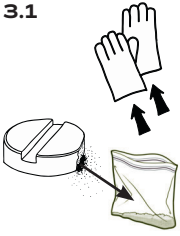
MDMA is not distributed evenly in pills or powders. Therefore, it is best to homogenize a significant amount of the substance before testing (see under Section 3, "Performing the test").

When testing pills: You should use **50 milligrams** (mg) of material for the test. The result will tell you the concentration in mg of MDMA in the tested 50 mg sample. Afterwards, you could calculate the concentration for the entire homogenized pill (see section 4.2 "Determination of the total sample concentration").

When testing powders or crystals: You should use **30 milligrams** (mg) of material for the test. The result will tell you the concentration in mg of MDMA for the tested 30 mg sample. Afterwards, you could calculate the concentration for the entire homogenized amount (see section 4.2 "Determination of the total concentration").

3. PERFORMING THE TEST

3.1



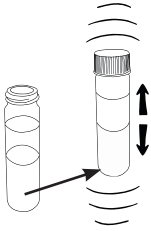
Perform the analysis in a **well-ventilated area (CAUTION, the fumes can be flammable/explosive)** and avoid inhaling fumes. First, put on the provided protective gloves and wear appropriate protective clothing, as well as safety goggles. If you wear contact lenses, remove them (keep pets, especially cats, away from the testing area). Prepare a folded surface (such as a flyer or something similar) for weighing your sample. Place the flyer on a scale and tara it to zero. **To determine the total concentration in pills, first weigh the entire pill beforehand and make a note of the value. Then, place the entire pill in the provided ziplock bag and crush it into a fine powder. Afterward, thoroughly mix the powder.**

3.2

Place the crushed sample on the Flyer on the scale and weigh **50 mg for a pill (0.05 g) or 30 mg for crystals (0.03 g).**

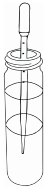
Note: *Check out our store: We have an affordable, accurate, and calibrated scale available that you can trust. Some scales may have difficulty measuring smaller amounts and work better in higher measurement ranges. In this case, use an additional weight (e.g., a coin) to increase the measurement range. This helps improve the accuracy of the result. Add the weight of the crushed sample to that of the additional weight without using the tara function*

3.3



Open the extraction vessel (black cap) and carefully pour the weighted sample into it (the folded flyer can be used as a "funnel" for this purpose). Then, tightly seal the vessel with the corresponding lid and shake it for approximately 60 seconds until all soluble components have dissolved. Place it securely on a flat surface and wait for any in soluble components to settle. Meanwhile, open the other three glass containers and place them on a stable surface for safe use. Advanced kit: Open the two small glass vials and keep attention to avoid mixing the colored lids.

3.4



Open the extraction vessel once again and use the pipet to extract liquid from the lower of the two phases. To do this, press the pipet chamber and hold it firmly. Then, immerse the tip **into the center of the lower phase** of the liquid and gently release the pipet chamber. It will now fill with liquid. **Be careful not to pick up** any deposits or crumbs from the bottom of the vessel while doing this.

3.5

Return the first two drops from the pipet back into the extraction vessel. Then, add 3 drops (or exactly 50 µl) from the pipet into the large detection vial (white cap). The pipet should be held as vertically as possible while dripping. If the liquid in the pipet is not sufficient, repeat the process from Step 3.4.

***Advanced Kit: Add three drops into the two additional vials.**

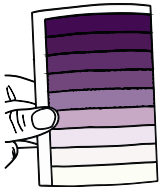
The remaining liquid in the pipet can then be returned to the extraction vessel, which should be tightly sealed again afterward. Securely close the large detection vial with the corresponding lid and shake it several times to mix the reagents. The coloration begins and takes 12 minutes to fully develop; it's best to set a timer for this.

For the Advanced kit only! Skip this step for the Basic kit.

In the meantime, open the colored lid of the dropper bottle and add **12 drops** (each 200 µl) of the provided reagent into each of the two small glass containers. Tightly seal the small vials with the corresponding lid and shake them 2 to 3 times.

Please refer to the information in section 5 to evaluate the result.

3.6



After the **12-minute** interval, you can evaluate and interpret the results using the provided evaluation color chart and quick reference guide on the back.

Please refer to the information in section 4, "Evaluation the results", to evaluate the result.

If you do not observe any coloration in the detection vial, it is highly likely a mislabeling. The presence of MDMA can be ruled out, but there may be other unknown substances present!

TIP for crystalline/powdered samples with no color result: *In this case, for verification, add the same amount (30 mg) of the original material directly into the large detection vial, which previously showed no color result.* ***IMPORTANT!*** *If a coloration is now visible, it no longer provides information about the concentration. The detected substance is likely present in small amounts, and further pharmacologically active adulterants can be expected. Especially in samples containing amphetamines, the content of the active substance is sometimes below the detection limit. You can use this method to determine if it is still an amphetamine despite the low concentration!*

4. EVALUATING THE RESULT

Coloration typically begins within a few seconds and takes 12 minutes at room temperature to fully develop and deepen (often transitioning from blue to purple). The evaluation should be done **immediately after the 12 minutes (after adding the three drops from the extraction vessel (black cap) to the large detection vial (white cap))**.

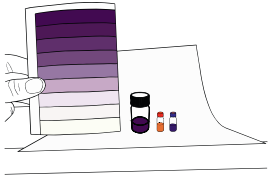
4.1 READING THE COLOR SCALE

After 12 minutes, you can determine the concentration of MDMA by comparing the intensity of the purple color in the large detection vial with the provided interpretation scale.

By comparing the intensity or saturation of the liquid in the vial with the enclosed color chart, you can determine the result visually. Good light conditions are essential for optimal evaluation. The best place would **be a bright room without direct sunlight on the vial**. If using artificial light, the influence of different color temperatures may slightly change the hue. You can still perform the evaluation, but consider this (e.g., high blue content in energy saving lamps, green discoloration when using LED light from cell phones, etc).

SPECIFIC EVALUATION INSTRUCTIONS

- Use a white A4 sheet of paper as a background.
- Under good light conditions, hold the glass vial next to the color chart about **15 to 20 centimeters** in front of the white sheet of paper and **look through the glass vial head-on**. For best results, your eyes should be pretty close to the vial but no closer than about **15 to 20 centimeters**.
- Now, match the final color of the vial to a color on the color chart scale and read the corresponding amount of your tested sample.
- **IMPORTANT:** This concentration applies to your weighted material but **not to the remaining** one, for that refer to section 4.2, "Determination of Total Sample Concentration".



TIPS AND FREQUENTLY ASKED QUESTIONS

For assistance in evaluation, our website provides comparison images that show the colored vials for all concentrations and answer commonly asked questions. Follow the

QR code or visit https: https://www.miraculix-lab.de/en/MDMA-QTest

You can take a photo of your evaluation similar to ours, and you can digitally analyze the colors using programs like ImageJ. Do you want even more precise and reproducible results without evaluating the color yourself? Then check out our new open-source spectrophotometer, which we provide with laboratory-calibrated reference curves tailored explicitly for our QTests.

4.2 DETERMINATION OF TOTAL CONCENTRATION

After the 12-minute development time, you can extrapolate the drug concentration to determine the total amount of the substance. Follow the example provided:

EXAMPLE:

The evaluation using the interpretation scale indicates a concentration of 16 mg. The starting material (e.g., a pill) has a total weight of 520 mg.

Total drug content = Concentration X (Tablet weight / weighted volume)
= 16 mg x (520 mg / 50 mg)
= 166.4 mg

4.3 DETECTION OF MISLABELING / MIXTURES

Use the quick reference guide (back side of the color chart). Start with the color change in the large detection glass vial. The color provides an initial indication of the substance it might be. If a purple discoloration is visible, you have to make sure that the substance is MDMA and not MDA or a mixture (use the Advanced Kit or traditional reagent kits).

UNEXPECTED RESULTS WITH DIFFERENT COLORATIONS

1. If the large detection reagent turns a strong green color, the substance is very likely mislabeled and contains 2C-B instead of MDMA.
2. A yellowish-orange discoloration of the substance is highly likely mislabeled and contains amphetamines instead of MDMA.
3. No discoloration at all, even after directly adding the substance to the large detection vial: the substance is very likely mislabeled and may contain other substances.

FURTHER INFORMATION:
You can find a wealth of factual information about individual substances on websites like psychonautwiki.org or erowid.org. These sites provide a lot of information about pharmacology, subjective effects, possible side effects, and other harm reduction measures. If you have further questions, feel free to reach out to us. We can often direct you to local Safer Nightlife or Harm Reduction projects for counseling and support.

5. EVALUATION OF MDMA ADVANCED KIT

STEP 1:

After completing the coloration of the large detection vial, check for a color change in the small vial with the red cap. Please note that the reagent in this vial already has a slight orange starting color. The vial with the red cap serves as a negative control and should not change color in a MDMA sample. If a red discoloration is visible, this is a strong indication that the sample is contaminated or mislabeled with MDA/6-APB. This can be further confirmed with step 2.

STEP 2:

Check for a color change in the small vial with the blue cap. Please note that the reagent in this vial already has a slight orange starting color. The vial with the blue cap serves as a positive control, and if MDMA is present, it should turn a strong blue/purple color. If there is no color change in the vial with the blue cap, and the vial with the red cap shows a red discoloration, it means the sample contains MDA and not MDMA, indicating a mislabeling. In this case, you could no longer rely on the concentration results.

Note: *Over time, the liquid in this vial may change color from orange to slightly greenish/ bluish. The reaction is not affected by this. If MDMA is present, the whole vial will be colored deep blue.*

EXPECTED RESULTS:

The large detection vial exhibits a clear purple coloration. The vial with the red cap shows no color change and remains orange, while the vial with the blue cap displays a noticeable color change to blue/ purple = ***THIS IS HOW IT SHOULD APPEAR***

The active ingredient is MDMA, and the substance is likely not contaminated with amphetamine, MDA, or PMA because any additives would manifest as a red color change in the vial with the red cap. However, there is always the possibility of small amounts of

substances being present that are insufficient to influence the coloration. You can proceed with determining the MDMA concentration.

If your result doesn't match the described example, there are possibly contaminations with other substances. The concentration result is no longer reliable for MDMA in such a case. Please follow the QR in section 4 to find examples and detailed descriptions of unexpected results.

6. LIMITATIONS

- Statistically, the MDMA content in ecstasy has been increasing in recent decades, and fewer additives are being detected. However, many substances do not exhibit a color reaction with the detection reagent. If only these substances are present, you will see no color reaction. However, the presence of a mixture of such a substance with MDMA can be problematic.
- Results can be affected by other substances (see section 9, "Disclaimers").
- **It is best to evaluate the colors during the day in a bright room**, look from the front at the height of the vials, and keep the distance between them and the white background. Individual visual interpretation can lead to users misjudging the concentration, typically just by one color field. Correct usage and using our comparison images significantly reduce these variations among participants. Validations have shown that even inexperienced users, without knowledge of the instruction guidelines, could confidently assess whether it was a weak, medium, or strong concentration.
- Sources of potential inaccuracies in concentration results: Incorrect/inaccurate weighing (scale not accurate), variations in drop size and quantity, residual moisture in the substance sample from water or solvents, transfer of undissolved solids into the detection reagent, inadequately crushed sample material (incomplete extraction of the active substance), expired/discolored detection reagents. Non representative sample tested (homogenized quantity too small or insufficiently homogenized).

7. STORAGE AND SHELF LIFE

Basic kit: Store the reagents at room temperature (2 - 20 °C) and out of direct sunlight for a shelf life of at least 18 months. If possible, it is always best to store reagents in a refrigerator.

Advanced kit: Store the reagents in a refrigerator (2 - 8 °C) and out of direct sunlight for a shelf life of at least six months. This is especially crucial for the two small vials, as discoloration can occur otherwise.

8. WARNINGS

- Pay attention to the warnings on the zip bag. Always keep the ingredients in this bag even after use.
- The test kit must be kept away from children and animals.
- When using the test kit, suitable gloves, protective clothing, and face/eye protection must be worn.
- If you wear contact lenses, remove them before use.
- All delivered materials and liquids should not be ingested or inhaled.
- The test kit should be used outdoors or in well-ventilated areas.
- The included liquids in the test kit consist of various acids that can cause skin irritation or severe eye damage/irritation. Skin, eyes, mouth, or clothing contact should be avoided.
- If contact occurs with the above-mentioned areas, remove the relevant clothing immediately. Rinse or flush affected skin areas immediately with plenty of water for several minutes.
- In case of contact with the eyes, rinse them immediately with plenty of water for several minutes.
- Suspected of damaging fertility, may cause damage to organs (nervous system) through prolonged or repeated exposure (if inhaled).
- Fumes can cause drowsiness and dizziness.

9. DISCLAIMERS

- Miraculix QTests are to be used for research purposes and quantification of unknown substances only.
- Your sample may be contaminated with one or more unknown substances that may cross-react with the reagents and affect the quantitative result.
- The result does not mean your sample is safe to consume. It could still contain unwanted substances and impurities that can be harmful or even deadly.
- The result of a tested sample should not be considered definitive. Many factors, including mixtures of multiple substances, cross-reactions, and/or lighting conditions play a role in chemical reactions.
- Miraculix assumes no responsibility for the use or misuse of the test kit or the results.
- Samples processed with the test kit are not to be consumed.
- Patent pending technology.

10. DISPOSAL OF MATERIALS

Check your local regulations for proper disposal. This kit contains hazard solvents that are toxic to aquatic life with long lasting effects.

MIRACULIX COMMUNITY RESEARCH

Submit your result and which sample you measured with the test kit, and help us collect data on the strength of current MDMA pills and crystals. Together with the Charité - Universitätsmedizin Berlin, we are assessing subjective experiences of MDMA.

The university ethics committee has aprroved the survey, so we can ensure that the data can be published as open source afterward, and all participants are guaranteed anonymity. You can find more information by following the QR code below: https://survey.charite.de/miraculix/

Join our community and be an essential part of open-source science!

For more information, visit:

@miraculixlab @miraculixlab https://miraculix-lab.com