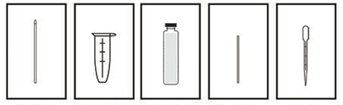
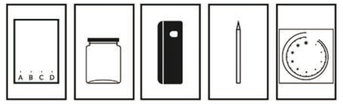
CHEMICAL SAFETY

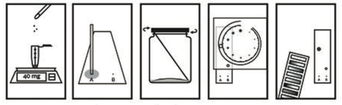
PURITY PRO TEST

Detect all ingredients and estimate potency of any substance





CONTENTS OF SUBSTANCE PURITY TEST



BASIC STEPS
GENERAL INSTRUCTIONS

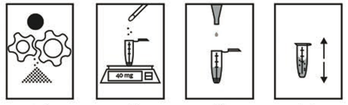
1. **PREPARE YOUR SAMPLE: MEASURE AND DISSOLVE**
2. **PLACE YOUR SAMPLE ON TESTING CARD**
3. **PLACE CARD IN DEVELOPING JAR**
4. **REVEAL RESULTS AND COMPARE WITH INSTRUCTIONS**
   OPTIONAL BUT RECOMMENDED: REAGENTS

HANDLING | STORAGE | DISPOSAL

- Wear clean gloves while handling test kit components
- Never touch white side of Testing Cards, hold by top edges
- Keep away from any heat source: sunlight, open flame, etc.
- Only test in well-ventilated space, avoid fumes
- Never open more than one testing liquid at once
- Do not leave test kit unattanded, keep out of reach of children and animals
- Test kit can be stored indefinitely without degradation
- Clean any spills with plenty of running water and soap
- Dispose of unsused or used contents, container or material that have been contaminated according to the appropriate local procedures, with respect to environmentally friendly hazardous waste disposal

STEP 0
MARK 4 DOTS

Wearing gloves and using a pencil gently mark 4 dots on white side of Testing Cards. Space the dots at least 2 cm apart from Card bottom and 1 cm from each other and side edges.



STEP 1
PREPARING SAMPLE

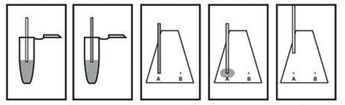
1. If you have a crystal, powder or pill, crush it finely
2. **Check Percentage Ruler for recommended mg/ml ratio**
3. Add your substance inside a Small Vial
4. Fill the Small Vial with Testing Liquid
5. Close the Small Vial firmly and shake, dissolve as good as possible

CRYSTAL | PILL | POWDER
Prepare 40 mg in 0,5 ml of Primary Testing Liquid unless ruler says otherwise
BLOTTER | GEL TAB
Submerge 1/4th in the smallest possible amount of Primary Testing Liquid
PLANT
Prepare 100 mg in 1 ml of Primary Testing Liquid
FLUID
Weigh just like crystal/pill/powder samples

Unless instructed otherwise, use Primary Testing Liquid.
To detect all substances in your sample it might be necessary to use more than 1 type of Testing Liquid out of all available for purchase at protestkit.eu.

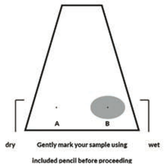
TIPS & TRICKS

- Always test in a well ventilated area to avoid breathing in fumes
- Always wear gloves when handling Testing Cards, hold by top edges
- If testing a pill, crush the entire pill and mix to ensure a homogenous sample



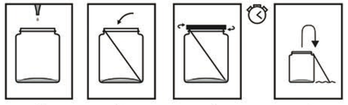
STEP 2
PLACING SAMPLE

1. Place Glass Tube in Small Vial with just the tip barely submerged
2. Glass Tube will fill automatically, observe under good light conditions
3. Gently touch down Glass Tube on 1 of 4 dots on Testing Card
4. Allow Glass Tube to empty and pick it up
5. Wait 30 seconds for Testing Card to dry
   If testing blotter or gel, repeat 4 times to apply 4 ul



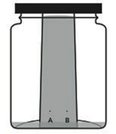
TIPS & TRICKS

- Never touch white side of Testing Cards, hold by top edges
- Do not close Glass Tubes with your finger
- Do not press Glass Tubes (just touch), they break easily
- It might be easiest to submerge Glass Tubes at a 30-45 degree angle
- Practice using Glass Tubes with water, paper towel and good light source
- Clean Glass Tubes by loading and emptying with solvent, discard if clogged

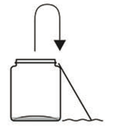


STEP 3
DEVELOPING TESTING CARD

1. Fill Developing Jar with 2 ml of fresh Testing Liquid
2. Evenly insert Testing Card with white side facing up and dots at the bottom
3. Close Developing Jar. Wait 25 min. or until Testing Card is almost fully soaked
4. Remove Testing Card, close Developing Jar, air-dry for 3 minutes



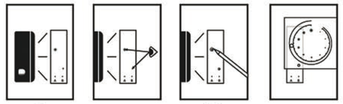
Testing Card almost fully soaked



When Testing Card absorbs liquid almost fully then remove it from Developing Jar immediatly

TIPS & TRICKS

- Never touch white side of Testing Cards, hold by top edges
- Do not move Developing Jar while Testing Card is inside
- You can reuse Testing Cards as long as they have an empty „lane"

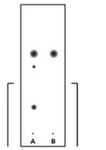


STEP 4.1
COMPARING SEMI-QUANTITATIVE RESULTS

1. Use UV-C flashlight to find spots on Testing Card
2. Use pencil to precisely circle around detected spot(s)
3. Put Percentage Ruler over detected spot
4. Compare results with Percentage Ruler
   WARNING: DO NOT SHINE UV-C LIGHT ON SKIN OR EYES

HOW TO INTERPRET SPOT RESULTS

- Each spot that shows up indicates a different substance separated from your original sample. If there is only one spot your sample is pure.
- If you see multiple spots your sample is not pure. Some exceptions are heroin, which might contain partially converted morphine, or 4-ACO compounds with harmless residual fumeric acid.
- If you don't see any spots no active substance was detected. To double check try another Testing Liquid. Insoluble cuts do not show up.
- A big dark patch in top part of a Testing Card indicates sweaty hands contamination or that sample was applied with a wrong tool. Run an empty Testing Card to check it or try to wash off contamination. Always use clean gloves and never touch white side of Testing Cards, hold only by top side edges.

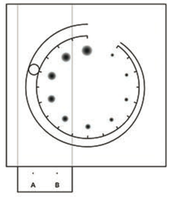


HOW TO USE PRO TEST PERCENTAGE RULER

The Percentage Ruler features two ways to measure size of revealed spots:

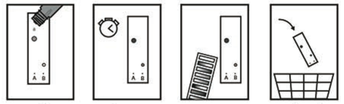
First align the spot that you marked with a pencil between the two sloped lines in an appropriate percentages range. When the spot fits just right between the two lines check the value listed next to it - this is your purity percentage result. It is possible read results beyond printed numbers, 55% for example.

Next to double check you can roughly compare size of your detected spot with one printed on the ruler at previously established value. Spot shapes can vary from perfectly round to comet-shaped, this is normal, only size is relevant. If spot is comet-shaped mark with pencil the oval shape that you can clearly see.



TIPS & TRICKS

- If detected spots are too big double check used mg/ml ratio
- To lower spot comet-shaped tail reduce mg/ml ratio and multiply end result
- If you see streaks instead of spots check if you are using fresh Testing Liquid
- If cocaine % result seems too high sample likely contains coca plant impurities

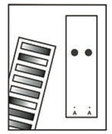


STEP 4.2
COMPARING QUALITATIVE RESULTS

1. Add 1 drop or scoop of reagent onto spot marked on Testing Card
2. Observe color change reaction for 1-2 minutes
3. Compare color change with reagent instructions
4. Don't litter, discard of the Testing Card safely

REFERENCE SAMPLES

- Cross-reference reagent color change with spots position height - if results are the same then both substances are likely the same too
- It is recommended to test a sample side by side with a second, earlier confirmed „control" sample of the same kind (or caffeine, see pages 10-11)
- Compare spot position, same position suggests presence of the same substance, although still requires cross-referencing with reagent testing



Same spot height and same reagent results can indicate presence of the same substance

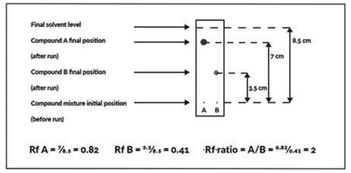
TIPS & TRICKS

- Only 1-part reagents will work on Testing Cards
- Keep all liquids tightly closed to avoid evaporation
- Clean tools with alcohol/acetone/vinegar/Testing Liquid
- In case of any doubt do not hesitate to send a sample to a lab

ADVANCED: REFERENCE RATIOS

Pages 10-11 are for advanced researchers only

If reagents don't react and control sample is unavailable it is possible to use different substances as reference for substance identification. If spot height (Rf) value of compound A is twice as big as of compound B you can expect them to keep that ratio at any value. Rf value (spot height) will change depending on many factors, but ratio will not. For best results please use our downloadable calculator at http://protestkit.eu/calc. Simply enter two available substances, one confirmed one not confirmed, enter spot height (Rf value) of the confirmed substance and check where the other one should appear.



Example:
If after developing a Testing Card substance A shows up at Rf 0.82 and substance B shows up at Rf 0.41, their Rf ratio = A/B = 0.82/0.41 = 2. Therefore if substance A shows up at 3 cm, substance B will appear at 1.5 cm (+-3 mm).

ADVANCED: REFERENCE RATIOS CALCULATOR

If http://protestkit.eu/calc is unavailable please use the chart below.

Using caffeine Rf ratios of 2 different substances you can calculate where one should appear knowing only Rf of the other (reagents are still highly recommeded).

SUBSTANCE	CAFFEINE RATIO AVARAGE +- 0.3 cm	SPOT HEIGHT (Primary Testing Liquid)
2C-B	0.45	Caffeine Rf / 1*0.45
Amphetamine	0.69	Caffeine Rf / 1*0.69
CAFFEINE	1	Caffeine Rf / 1* 1
Cocaine	0.95	Caffeine Rf / 1* 0.95
Codeine	0.89	Caffeine Rf / 1* 0.89
DMT	0.56	Caffeine Rf / 1* 0.56
Ephedrine	0.51	Caffeine Rf / 1* 0.51
Heroin	1.13	Caffeine Rf / 1* 1.13
Ketamine	0.99	Caffeine Rf / 1* 0.99
Levamisole	1	Caffeine Rf / 1* 1
Lidocaine	1.03	Caffeine Rf / 1* 1.03
LSD	1	Caffeine Rf / 1* 1
Methamphetamine	0.61	Caffeine Rf / 1* 0.61
Oxycodone	0.93	Caffeine Rf / 1* 0.93
Paracetamol	1.15	Caffeine Rf / 1* 1.15
Phenetylamine	0.66	Caffeine Rf / 1* 0.66
MDA	0.66	Caffeine Rf / 1* 0.66
MDMA	0.53	Caffeine Rf / 1* 0.53
PMA	0.48	Caffeine Rf / 1* 0.48
PMMA	0.65	Caffeine Rf / 1* 0.65
Phenacetin	1.24	Caffeine Rf / 1* 1.24
Tetracaine	0.95	Caffeine Rf / 1* 0.95
.....	.....	Caffeine Rf / 1* .....

Ratios for Primary Testing Liquid

NOTES

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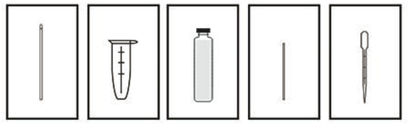
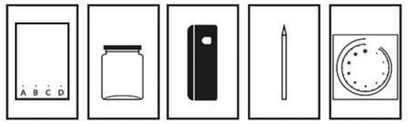
CHEMICAL SAFETY

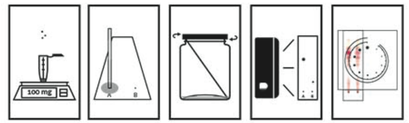
CANNABINOID PRO TEST

Estimate cannabis potency and identify cannabinoids





CONTENTS OF SUBSTANCE PURITY TEST



BASIC STEPS

GENERAL INSTRUCTIONS

1. **PREPARE YOUR SAMPLE: MEASURE AND DISSOLVE**
2. **PLACE YOUR SAMPLE ON TESTING CARD**
3. **HEAT TESTING CARD AND PLACE IN DEVELOPING JAR**
4. **REVEAL RESULTS AND CIRCLE AROUND DETECTED SPOTS**
5. **COMPARE RESULTS WITH INSTRUCTIONS AND PERCENTAGE RULERS**

OPTIONAL BUT RECOMMENDED: REAGENTS

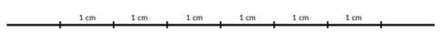
HANDLING | STORAGE | DISPOSAL

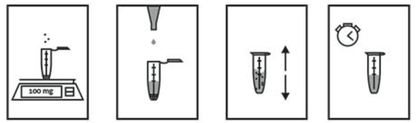
- Wear clean gloves while handling test kit components
- Never touch white side of Testing Cards, hold by top edges
- Keep away from any heat source: sunlight, open flame, etc.
- Only test in well-ventilated space, avoid fumes
- Never open more than one testing liquid at once
- Do not leave test kit unattanded, keep out of reach of children and animals
- Test kit can be stored indefinitely without degradation
- Clean any spills with plenty of running water and soap
- Dispose of unsused or used contents, container or material that have been contaminated according to the appropriate local procedures, with respect to environmentally friendly hazardous waste disposal

STEP 0

MARK 4 DOTS

Wearing gloves and using a pencil gently mark 4 dots on white side of Testing Cards. Space the dots at least 2 cm apart from Card bottom and 1 cm from each other and side edges.





STEP 1

PREPARING SAMPLE

1. Add cannabis product inside a Plastic Vial
2. Fill the Plastic Vial with Testing Liquid
3. Close the Small Vial firmly and shake briefly
4. Wait 2 minutes for any sediment to fall down

LOW THC CONTENT (0.2-5% THC)

Measure 200 mg inside Plastic Vial and proceed. In Step 2 apply your sample 8 times (8 ul) one 1 dot. At the end of Step 4 divide your result by 8.
It's possible to test leafs of a non-flowering plant as young as 3-4 weeks.

MEDIUM THC CONTENT (5-40% THC)

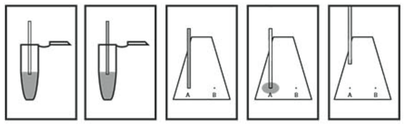
100 mg / 1 ml is recommended for dry flowers or extracts from 5 to 40% THC.
To test fresh flowers heat first for 60 minutes in 110C, then use 90 mg / 1 ml.

HIGH THC CONTENT (40-100% THC)

Measure 50 mg inside Plastic Vial and proceed. In Step 2 apply your sample only once (1 ul) one 1 dot. At the end of Step 4 multiply your result by 4.

TIPS & TRICKS

- Instructions for CBD and THC are the same
- Always test in a well ventilated area to avoid breathing in fumes
- Always wear gloves when handling Testing Cards, hold by top edges
- Keep all filled vials and bottles tightly closed to avoid evaporation



STEP 2

PLACING SAMPLE

1. Place Glass Tube at an angle in Small Vial with just the tip barely submerged
2. Glass Tube will fill automatically, observe under good light conditions
3. Gently touch down Glass Tube on 1 of 4 dots on Testing Card
4. Allow Glass Tube to empty and pick it up
5. Wait 30 seconds for Testing Card to dry

LOW THC CONTENT (0.2-5% THC)

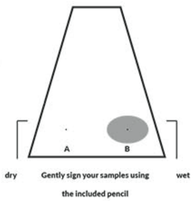
Repeat 8 times to apply 8 ul in 1 dot

MEDIUM THC CONTENT (5-40% THC)

Repeat 2 times to apply 2 ul in 1 dot

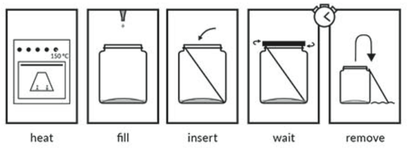
HIGH THC CONTENT (40-100% THC)

Apply 1 time (1 ul) in 1 dot



TIPS & TRICKS

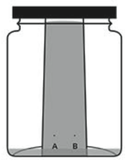
- Never touch white side of Testing Cards, hold by top edges
- Do not close Glass Tubes with your finger
- Do not press Glass Tubes (just touch), they break easily
- Practice using Glass Tubes with water, paper towel and good light source
- It might be easiest to submerge Glass Tubes at a 30-45 degree angle
- Clean Glass Tubes by loading and emptying with solvent, discard if clogged



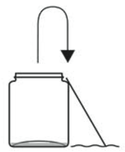
STEP 3

DEVELOPING TESTING CARD

1. Put prepared Testing Card for 5 minutes in an oven at 150C to decarboxylate
2. Fill Developing Jar with 2 ml of fresh Testing Liquid
3. Evenly insert Testing Card with white side facing up and dots at the bottom
4. Close Developing Jar. Wait 25 min. or until Testing Card is almost fully soaked
5. Remove Testing Card, close Developing Jar, air-dry for 3 minutes



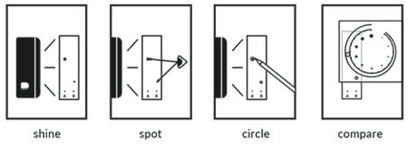
Testing Card almost fully soaked



When Testing Card absorbs liquid almost fully then remove it from Developing Jar immediatly

TIPS & TRICKS

- Wear gloves and never touch white side of Testing Card, hold by top edges
- Do not move Developing Jar while Testing Card is inside



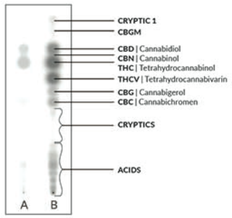
STEP 4

REVEALING WITH LIGHT

1. Use UV-C flashlight to find spots on Testing Card
2. Use pencil to circle 1 mm around detected spot(s)
3. Put Percentage Ruler over detected spot
4. Compare results with Percentage Ruler

WARNING: DO NOT SHINE UV-C LIGHT ON SKIN OR EYES

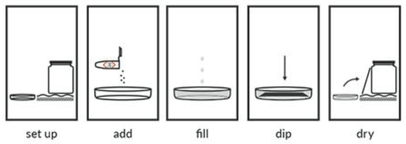
Pay attention to circle around whole spots, not just their darkest part. If a spot is comet-shaped measure it's diameter from top to bottom. Spot shape can vary.



Example: sample A contains mostly THC, CBD and traces of CBC

TIPS & TRICKS

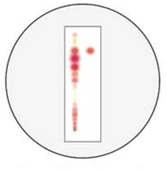
- You can reveal THC by exposing used Testing Card to strong normal light for 30 minutes
- You can reuse Testing Cards as long as they have an empty and not dyed „lane"
- Big dark patch on top part of Testing Card indicates sweaty hands contamination



OPTIONAL

REVEALING WITH DYE

1. Set up a drying and dipping area in a clean sink with paper towels
2. Add 1 Dye vial to Dipping Dish and carefully fill 3/4 with water to mix :
3. By its edges press prepared Testing Card into Dipping Dish for 5 seconds
4. Dry the Testing Card for 15 minutes in the prepared drying area



Submerge Testing Card for 5 seconds with the shiny side facing down

TIPS & TRICKS

- Wear gloves and never touch white side of Testing Card
- If Testing Card is too big cut off corners to fit Dipping Dish
- You can not reuse Testing Cards after revealing with Dye
- Dissolved Dye can be reused for 20 minutes

STEP 5

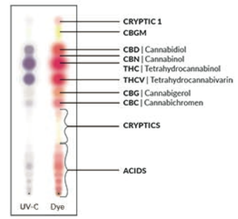
COMPARING RESULTS

1. Put Percentage Ruler over detected spots
2. Align correct cannabinoid spot between two sloped lines
3. Read percentage result where spot fits best between sloped lines

HOW TO INTERPRET DETECTED SPOTS

Test shows full composition of cannabis products ("chemotype" or „phenotype"). You can use it do distinguish strains, estimate potency and predict effects.

Each spot that shows up indicates a different substance separated from your original sample. If there is only one spot your sample is pure. If you only see a big flame-like streak on the bottom of your Testing Card that indicates the sample has not been fully decarboxylated (heated) in step 3 - or it is very old and degraded.



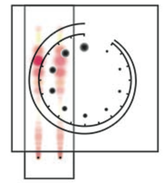
UV-C is less sensitive than Dye but safer

TIPS & TRICKS

- A big dark patch in top part of a Testing Card indicates sweaty hands contamination, or that sample was applied using a differnt tool than one of included glass tubes.
- If detected spots are too big double check used mg/ml ratio
- If spots are too small, check if Testing Card was heated correctly
- Synthetic cannabinoids if present are usually found in trace amounts, therefore can be detected indirectly if a highly psychoactive sample turns out to contain no THC

HOW TO USE PRO TEST PERCENTAGE RULER

The Percentage Ruler features two ways to measure size of revealed spots. First align the spot that you marked with a pencil between the two sloped lines in an appropriate percentages range. When the spot fits just right check the value listed next to it - this is your purity percentage result. It is possible read results beyond printed numbers, 55% for example. You can also use printed spots as reference, but spot shapes can vary from perfectly round to comet-shaped, this is normal, only lenght is relevant.



LOW THC CONTENT (0.2-5% THC)

If in Step 1 you prepared 200 mg / 1 ml and in Step 2 you applied sample 8 times (8 ul) then at the end multiply cannabinoid % result by 8

MEDIUM THC CONTENT (5-40% THC)

If in Step 1 you prepared 100 mg / 1 ml and in Step 2 you applied sample 2 times (2 ul), then at the end read cannabinoid % result as is (if the result exceedes Percentage Ruler's 20% scale then apply the Ruler twice to the same spot)

HIGH THC CONTENT (40-100% THC)

If in Step 1 you prepared 50 mg / 1 ml and in Step 2 you applied sample 1 time (1 ul), then at the end multiply cannabinoid % result by 4

TIPS & TRICKS

- To measure trace amounts of CBN, THCV, CBG or CBC in Step 2 apply your sample 4 times (4 ul) and at the end divide the approximate cannabinoid % result by 2