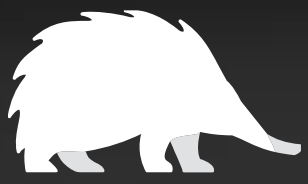
Ekidna Validation Report: THCa Version 2

March 2023



Results contained in this report are for Ekidna THCa test kits only, on a variety of dried cannabis flower samples. Separate reports are available summarizing results on extracts of THCa, THC, CBDa, and CBD.

THCa Test Kit: Version 2	
Sample Types	Whole dry flower
Sample Mass	400 – 490 mg
THCa Potency Range	10.0% – 31.5%
Accuracy	Within 0% – 10% relative of HPLC measurement
Extraction Time	5 min
Testing Time	~ 2 min

If you are interested in testing a different sample type or potency rangecac not included in this report, please contact us to inquire about ways we can tailor the Ekidna platform to your needs.

Comparison of Average %THCa on Ekidna Test and HPLC

Average %THCa results (for n samples), obtained on various dried whole flower cannabis samples. All values in % (g/g).

Sample ID	Cannabinoid	Package[α]	Ekidna			External HPLC			Offset[§]
			Value	σ[‡]	n	Value[φ]	Value[β]	σ[‡]	
ETS-001	THCa	26.5	22.39	1.18	21	22.14	22.50	1.65	0.25
ETS-002	THCa	24.2	22.79	1.65	28	-	22.70	1.96	*0.09*
ETS-003	THCa	30.7	21.95	1.08	12	23.83	22.13	1.30	-1.88
ETS-004	THCa	26.8	19.54	1.48	6	19.81	19.08	1.35	-0.27
ETS-005	THCa	37.0	23.19	0.74	5	23.71	23.12	1.14	-0.52
ETS-006	THCa	41.2	26.39	2.71	3	-	28.46	2.98	*-2.07*
ETS-007	THCa	26.8	21.25	0.45	3	-	22.04	0.33	*-0.79*
ETS-008	THCa	18.5	14.77	0.90	6	-	14.87	1.06	*-0.10*
ETS-009	THCa	21.9	18.19	2.00	10	-	18.30	1.96	*-0.11*
ETS-010	THCa	21.2	14.48	1.42	8	-	13.83	1.50	*0.65*

[α]%THCa reported on the package, sampling dates and preparation unknown.
[‡]Standard deviation, 1σ (68 %).
[φ]HPLC prepared using same dry cannabis plant material, following external lab protocols.
[β]HPLC prepared from Ekidna solutions, same number of replicates as Ekidna test.
[§]Offset = Ekidna Value - External HPLC Value[φ] (external extraction); if not present, External HPLC Value[β] (Ekidna solution) used.

Validation Procedure

The Ekidna test kit was validated using 10 different flower samples, purchased from local retail stores. The samples had different volumes and were chosen randomly from different manufacturers, with the only conditions being that they were THC-dominant with total CBD content below 1 mg/g. Four of the samples were Sativa-dominant, three were Indica-dominant, and three were labelled as Hybrid.

All flower samples were tested as-is, with no additional drying or processing. Whole flower pieces were removed from the bags and weighed on an analytical balance, with additional pieces added if they were below 400 mg, or small chunks removed if they were above 490 mg. The whole flower was then transferred to an Ekidna prep tube, shaken for 30 seconds to break apart the flower, and allowed to extract in solution for 5 minutes. At the end of the extraction time an aliquot was transferred to the testing tube (using the syringe provided in the kit), the sensor cap was attached, and the sample was analyzed using the custom Ekidna reader and software. Please contact us or visit our website for a more comprehensive description of the testing procedure.

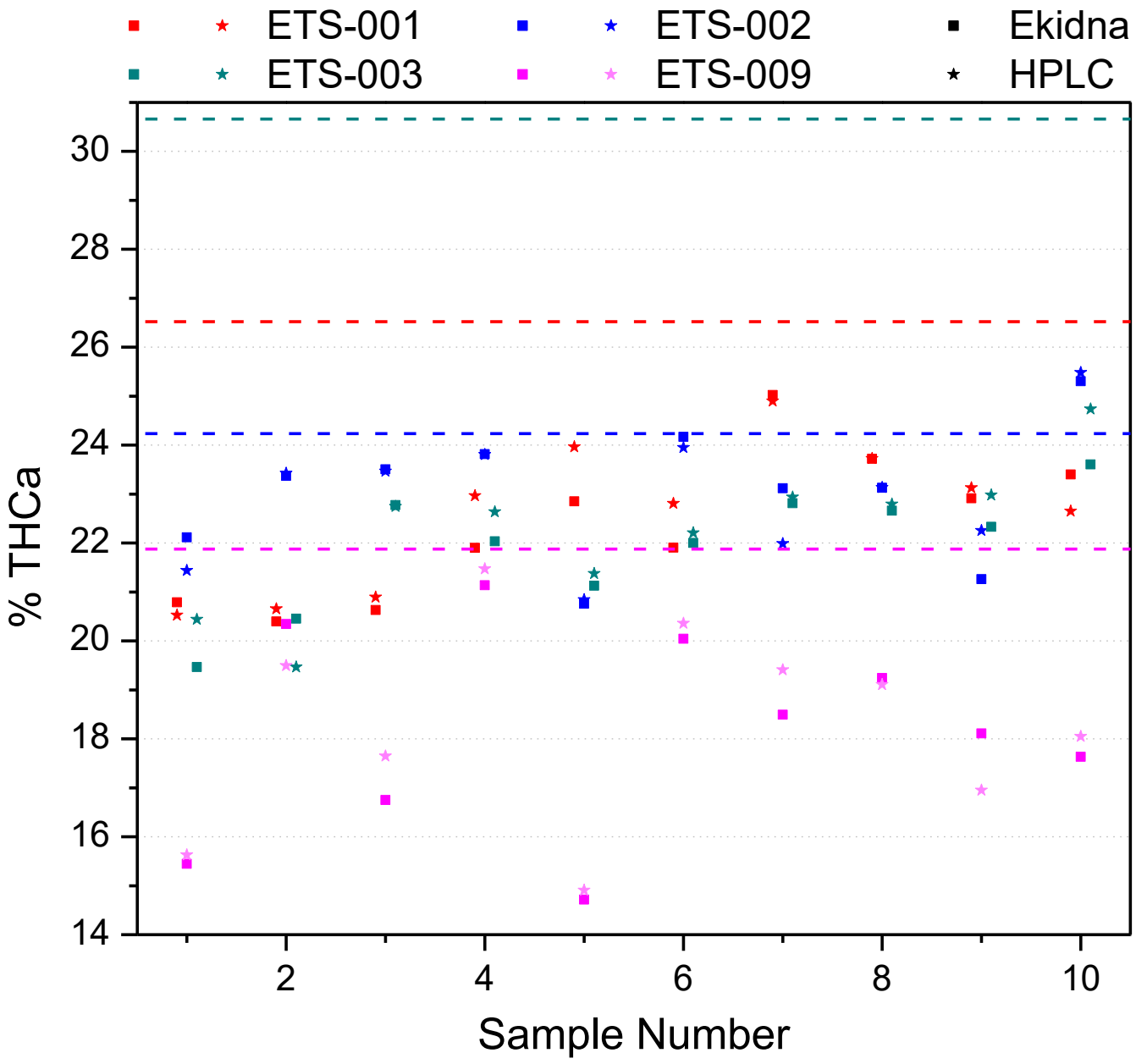
Upon completion of the test, ~ 2 mL of the testing solution was passed through a 0.2 µm PTFE filter into a vial and transferred to an external lab for HPLC testing. The average results from the Ekidna test and HPLC experiments are summarized in the *Comparison of Average %THCa on Ekidna Test and HPLC* section on the previous page. The correlation between each individual sample was also analyzed, both in terms of absolute values (see *Comparison of %THCa Values on Ekidna Test with HPLC Values* section) and percent relative difference between Ekidna results and HPLC *(% Relative Difference, Ekidna Test and HPLC* section below) using the following equation:

$$\%Rel.Diff. = \left(\frac{\%THCa_{HPLC} - \%THCa_{Ekidna}}{\%THCa_{HPLC}}\right) \times 100\%$$

To confirm efficacy of the Ekidna solution for extracting cannabinoids, samples of dry flower were removed from four bags and provided to the external lab for testing using their own extraction and analysis processes.

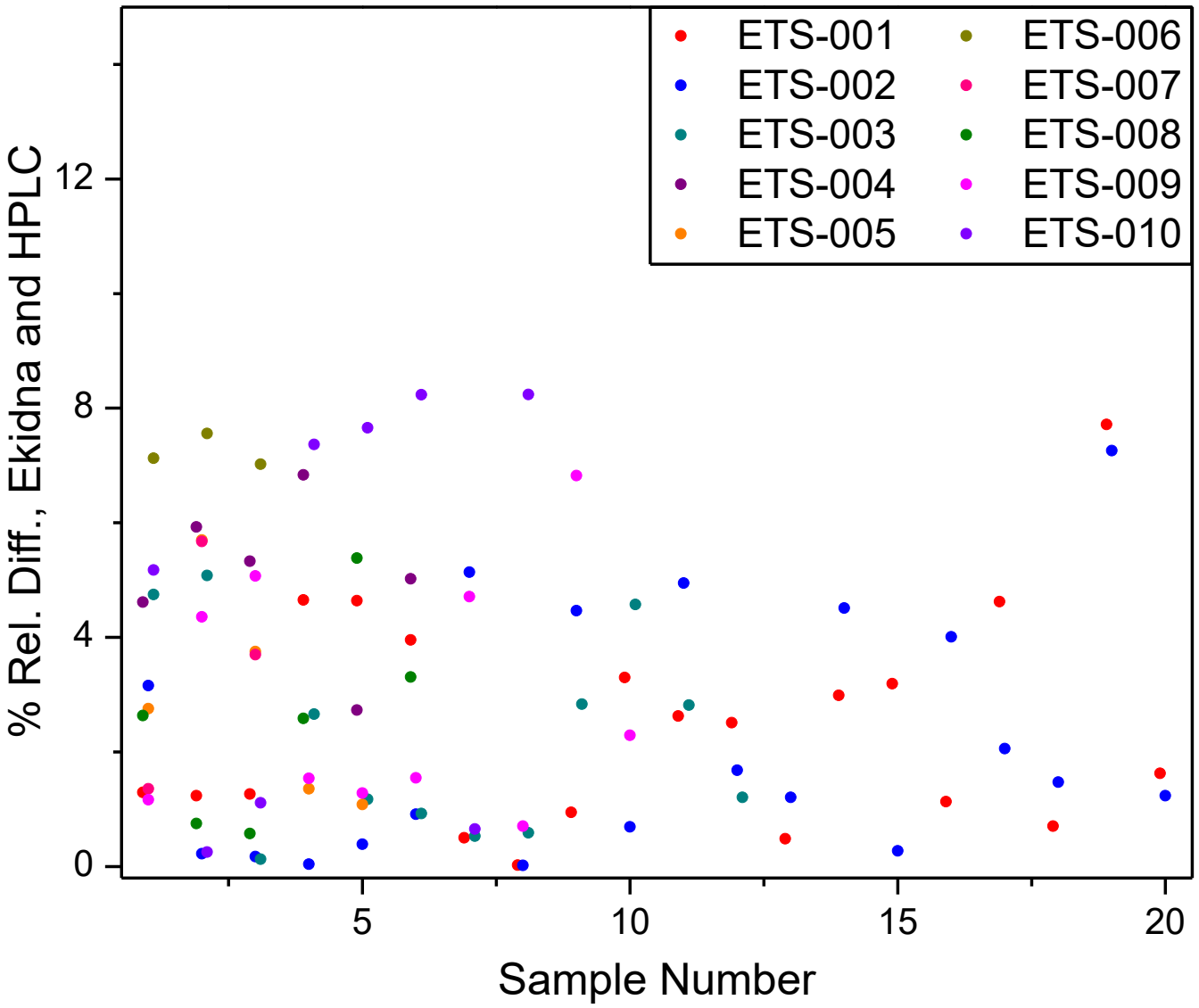
Comparison of %THCa Values on Ekidna Test with HPLC Values

%THCa values from the Ekidna test (squares) and corresponding HPLC experiments (stars) for 10 replicates, from four different cannabis samples. HPLC samples were prepared from Ekidna test solutions and transferred to an external lab for testing. Dashed lines depict %THCa values on packaging.



Percent Relative Difference, Ekidna Test and HPLC

Absolute percent relative difference between individual Ekidna test results and their corresponding HPLC values (prepared directly from Ekidna test solutions) for all replicates from the 10 different flower samples, with a total of 93 data points depicted on the figure below. A summary of the mean, standard deviation, and median of the percent relative difference from these results can be found in a table on the following page. A comparison to the values reported on the bags is also included.



Sample	n	% Rel. Diff. to HPLC			% Rel. Diff to Bag[α]
		Mean	σ	Median	
ETS-001	28	3.05	2.4	2.57	15.59
ETS-002	28	2.58	2.5	1.58	5.96
ETS-003	12	2.27	1.7	1.93	28.42
ETS-004	6	5.08	1.3	5.17	26.95
ETS-005	5	2.93	1.7	2.76	37.38
ETS-006	3	7.23	0.2	7.13	35.86
ETS-007	3	3.58	1.8	3.70	20.58
ETS-008	6	2.54	1.6	2.61	20.26
ETS-009	10	2.95	2.0	1.92	16.85
ETS-010	8	4.84	3.35	6.27	31.60

[α]*%THCa reported on bag compared to average %THCa calculated on Ekidna test.*

Contact Info

Please contact Nic Boileau (nic@ekidnasensing.com) and Cali Barnstead (cali@ekidnasensing.com) for more information or questions.