Table S1. Phytochemical constituents detected in EBSC and their quantified content

Phytochemical	**Presence in EBSC**	**Content**
Flavonoids	+	44.78 ± 1.74 mg QE/g
Tannins	+	NT
Polyphenols	+	73.41 ± 2.37 mg GAE/g
Alkaloids	+	7.92 ± 0.56 mg AE/g
Saponins	+	NT
Curcuminoids	+	29.95 ± 0.38 mg/g

Phytochemicals are indicated as (+) present or (NT) not tested. Values are expressed as mean ± SD (n = 3).

Table S2. LC-MS/MS-identified phytoconstituents in EBSC with retention time, m/z, structural class, and plant source

No.	Compound name	RT (min)	m/z	Proposed structure	Plant source
1	Gallic acid	4.43	169.88	Phenolic acid	Shallot
2	Anthocyanins (cyanidin-3-glc)	6.47	447.91	Flavonoid glycoside	Shallot
3	S-allyl cysteine (SAC)	2.38	162.27	Organosulfur compound	Shallot
4	S-methyl-L-cysteine sulfoxide	3.56	183.44	Sulfoxide derivative	Shallot
5	Curcumin	8.62	369.22	Diarylheptanoid	Turmeric
6	Demethoxycurcumin (DMC)	9.19	339.76	Curcuminoid analogue	Turmeric
7	Bisdemethoxycurcumin (BDMC)	9.22	307.99	Curcuminoid analogue	Turmeric
8	Unidentified alkaloid derivative	–	–	Alkaloid-type structure	Shallot

Compounds were identified by comparison with authentic standards and literature data using MRM mode.

Table S3. Effect of EBSC on tail flick reaction latency (RLT) and pain inhibition (IFT) in mice

Dose [mg/kg]	**RLT (s)**	**IFT (%)**	R^2	r	p-**value**	**Correlation**
100	7.89 ± 0.36	38.32 ± 1.67	0.989	0.997	0.0178	↑↑
200	8.94 ± 0.49	48.97 ± 1.43	0.991	0.986	0.0182	↑↑
300	9.58 ± 0.55	58.88 ± 1.79	0.995	0.988	0.0169	↑↑

Data are shown as mean ± SD (n = 8). One-way ANOVA with Tukey's post hoc test was applied. ↑↑ indicates a strong positive dose–response correlation.

Table S4. TRPV1 levels in response to EBSC treatment in the hot plate and tail flick tests

Group	Test	TRPV1 [ng/ml] Mean ± SD	R^2 dose-response	*r*	*p*-value	Correlation
EBSC100	Tail flick	9.66 ± 0.22	0.994	–0.992	0.0147	↓↓
	Hot plate	8.98 ± 0.19	0.988	–0.989	0.0156	↓↓
EBSC200	Tail flick	7.83 ± 0.24	0.987	–0.994	0.0139	↓↓
	Hot plate	6.87 ± 0.21	0.996	–0.987	0.0174	↓↓
EBSC300	Tail flick	5.79 ± 0.17	0.997	–0.985	0.0169	↓↓
	Hot plate	5.65 ± 0.15	0.988	–0.991	0.0145	↓↓

Values are presented as mean ± SD (n = 8). ↓↓ indicates a strong inverse correlation between EBSC dose and TRPV1 expression**.** Protein levels were normalized and measured by ELISA.

Table S5. Dose-response effects of EBSC on COX-2 and PGE_2 concentrations

Group	Parameters	Mean ± SD	R^2 dose-response	*r*	*p*-value	Correlation
EBSC100	COX-2 [pg/mg]	133.76 ± 1.92	0.994	-0.989	0.0147	↓↓
	PGE_2 [pg/mg]	167.55 ± 2.44	0.988	-0.991	0.0139	↓↓
EBSC200	COX-2 [pg/mg]	117.69 ± 1.78	0.989	-0.997	0.0176	↓↓
	PGE_2 [pg/mg]	138.98 ± 1.82	0.997	-0.989	0.0155	↓↓
EBSC300	COX-2 [pg/mg]	99.39 ± 1.68	0.992	-0.987	0.0163	↓↓
	PGE_2 [pg/mg]	113.77 ± 1.85	0.996	-0.995	0.0185	↓↓

Data are expressed as mean ± SD (n = 8), normalized per mg of protein. ↓↓ indicates a strong negative correlation with EBSC dose.

Table S6. Dose-dependent effects of EBSC on serum levels of TNF-α, IL-6, and IL-10

Parameters	Dose [mg/kg]	Mean ± SD	R^2 dose-response	*r*	*p*-value	Correlation
TNF-α [pg/ml]	100	215.47 ± 1.35	0.988	–0.989	0.0176	↓↓
	200	204.36 ± 1.24	0.994	–0.988	0.0185	↓↓
	300	168.79 ± 1.34	0.987	–0.994	0.0149	↓↓
IL-6 [pg/ml]	100	46.66 ± 1.17	0.985	–0.995	0.0165	↓↓
	200	39.72 ± 1.23	0.992	–0.998	0.0154	↓↓
	300	36.28 ± 1.14	0.996	–0.986	0.0148	↓↓
IL-10 [pg/ml]	100	119.83 ± 2.51	0.999	0.984	0.0157	↑↑
	200	125.59 ± 2.72	0.989	0.993	0.0162	↑↑
	300	148.77 ± 2.88	0.988	0.997	0.0173	↑↑

Data represent mean ± SD (n = 8). ↑↑ indicates a strong positive correlation (e.g., IL-10 increase); ↓↓ indicates a strong negative correlation (e.g., TNF-α and IL-6 decrease) with increasing EBSC dose. ELISA determined all values.

Table S7. Summary of dose–response correlations between EBSC and key pharmacological parameters

Parameter	**Correlation type**	**Dose-response R^2**	***p*-value**	**Strength of correlation**
Reaction latency (RLT)	Positive	0.9908	0.0169	Strong
Pain inhibition (IFT)	Positive	0.9996	0.0169	Strong
TRPV1 (Tail flick)	Negative	0.9940	0.0147	Strong
TRPV1 (Hot plate)	Negative	0.9880	0.0156	Strong
Rectal temperature (RT)	Negative	0.9967	0.0147	Strong
Fever inhibition (IPR)	Positive	0.9904	0.0174	Strong
COX-2	Negative	0.9940	0.0147	Strong
PGE_2	Negative	0.9960	0.0139	Strong
Paw thickness (PT)	Negative	0.9940	0.0155	Strong
Edema inhibition (IPE)	Positive	0.9905	0.0147	Strong
TNF-α	Negative	0.9940	0.0149	Strong
IL-6	Negative	0.9960	0.0148	Strong
IL-10	Positive	0.9990	0.0157	Strong

R^2 values reflect model fit for linear or sigmoidal regression. All dose-response relationships showed statistical significance ($p < 0.05$).