

# Product data sheet



MedKoo Cat#: 530676 Name: Green tea extract solution CAS: 84650-60-2 (green tea extract) Chemical Formula: N/A Exact Mass: N/A Molecular Weight: N/A		
Product supplied as:	Powder	
Purity (by HPLC):	≥ 98%	
Shipping conditions:	Ambient temperature	
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.	

## 1. Product description:

Green tea extract, also called Tea polyphenol, are a mixture of chemical compounds, such as flavanoids and tannins, found naturally in tea. These chemical compounds are believed to be beneficial to human health, and they are the basis of many claims made about the health benefits of tea. Polyphenols are powerful antioxidants, which can reduce the risk of developing coronary artery disease and a number of other health problems. The compounds found in tea have also been linked with cancer reduction. Note: this product is supplied in 50% ethanol solution with concentration 200mg/mL.

## 2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

## 3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	32.5	N/A

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	N/A	N/A	N/A
5 mM	N/A	N/A	N/A
10 mM	N/A	N/A	N/A
50 mM	N/A	N/A	N/A

## 5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

## 6. Recommended literature which reported protocols for in vitro and in vivo study

### In vitro study

1. Luo KW, Xia J, Cheng BH, Gao HC, Fu LW, Luo XL. Tea polyphenol EGCG inhibited colorectal-cancer-cell proliferation and migration via downregulation of STAT3. *Gastroenterol Rep (Oxf)*. 2020 Dec 3;9(1):59-70. doi: 10.1093/gastro/goaa072. PMID: 33747527; PMCID: PMC7962736.
2. Jang M, Park R, Park YI, Cha YE, Yamamoto A, Lee JI, Park J. EGCG, a green tea polyphenol, inhibits human coronavirus replication in vitro. *Biochem Biophys Res Commun*. 2021 Apr 2;547:23-28. doi: 10.1016/j.bbrc.2021.02.016. Epub 2021 Feb 10. PMID: 33588235; PMCID: PMC7874949.

### In vivo study

1. Song D, Ge J, Wang Y, Yan Q, Wu C, Yu H, Yang M, Yang H, Zou J. Tea Polyphenol Attenuates Oxidative Stress-Induced Degeneration of Intervertebral Discs by Regulating the Keap1/Nrf2/ARE Pathway. *Oxid Med Cell Longev*. 2021 Jan 7;2021:6684147. doi: 10.1155/2021/6684147. PMID: 33505586; PMCID: PMC7811431.
2. Li Z, Chang L, Ren X, Hu Y, Chen Z. Modulation of Rat Kidney Stone Crystallization and the Relative Oxidative Stress Pathway by Green Tea Polyphenol. *ACS Omega*. 2021 Jan 7;6(2):1725-1731. doi: 10.1021/acsomega.0c05903. PMID: 33490831; PMCID: PMC7818641.

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## 7. Bioactivity

### Biological target:

Tea polyphenol exhibits biological activity including antioxidant and anti-cancer activities, inhibition of cell proliferation, induction of apoptosis, cell cycle arrest and modulation of carcinogen metabolism.

### In vitro activity

Treatment with EGCG (the most bioactive polyphenol in green tea) for 24 h resulted in the inhibition of cell proliferation in a dosedependent manner. As shown in Figure 1, EGCG inhibited the growth of SW480, SW620, and LS411N cells with an IC50 of 74.6, 99.4, and 112.1 µg/mL at 24 h, respectively. Besides, the results showed that SW480 cells were more sensitive to EGCG than SW620 and LS411N cells (Figure 1).

Reference: Gastroenterol Rep (Oxf). 2021 Jan; 9(1): 59–70. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7962736/>

### In vivo activity

MRI examination showed that TP (tea polyphenol) treatment improved disc degeneration. Although rats in the saline degeneration group maintained the original height of the intervertebral space in the first week, the disc signal significantly decreased; however, TPtreated rats showed a high disc signal level in the first week. Although the signal was somewhat indistinct and dispersed compared to the signal observed in the control group, the overall situation was better than that of the degeneration group (saline). In the MRIs performed at the second and fourth weeks, it was observed that the discs in the degeneration group became “dark discs” with an obvious decreased height of the intervertebral space. Conversely, the discs in the TP group showed an obvious improvement and retained high signals; the signal of the disc did not go dark sharply, although the height of the intervertebral space continued to decrease.

Reference: Oxid Med Cell Longev. 2021; 2021: 6684147. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7811431/>

*Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.*