

# **Glioblastoma**

**Alternative Cancer Treatment  
Research Report**

# **Brain Cancer Alternative Treatment**

**Written by**

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# **Glioblastoma Brain Cancer Alternative Treatment**

## **Introduction**

### **Use Disclaimer**

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While NaturalCancerReports.com makes every reasonable attempt to conduct a thorough search of the published medical literature, the possibility always exists that some significant articles may be missed.

I've presented just the natural glioblastoma alternative treatment products that have the best medical research supporting their use.

I'm sorry the information that follows has many medical terms that you may not understand. I left them in this research review for your doctor so that they will understand the science behind the research.

### **FDA Disclaimer**

\*These statements have not been evaluated by the Food and Drug Administration.

Dietary supplements are not intended to diagnosis, treat, cure or prevent any disease.

## Glioblastoma Brain Cancer Alternative Treatment

### CLA (Conjugated linoleic acid)

In a GBM laboratory cell study CLA strongly inhibited cell growth and proliferation rate and induced normal cell death ([apoptosis](#)). The CLA treatment decreased tumor cell migration and invasiveness via PPARgamma activation.

Researchers state, *"this natural fatty acid (CLA) may be used as brain antitumor drug and as a chemopreventive agent."*<sup>1</sup>

CLA inhibited GBM cell growth in cell studies. CLA was more effective against the more aggressive malignant cells. The inhibitory effect of CLA on growth was accompanied by programmed cell death and necrosis. The effects of CLA involved PPARs.

Researchers state: *"In conclusion, CLA may be regarded as a component of the diet that exerts antineoplastic activity its effect may be antiproliferative or pro-apoptotic."*<sup>2</sup>

There have not been any animal or human CLA GBM studies.

There have not been any studies showing concerns about CLA and Glioblastoma.

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*ConjuLean 1000 has CLA (conjugated linoleic acid)*

[In my practice I use Xymogen ConjuLean 1000. Click here to learn more about ConjuLean 1000.](#)

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<sup>1</sup> [Int J Cancer](#). 2005 Dec 20;117(6):923-33. PPARgamma-dependent effects of conjugated linoleic acid on the human glioblastoma cell line (ADF). [Cimini A](#), [Cristiano L](#), [Colafarina S](#), [Benedetti E](#), [Di Loreto S](#), [Festuccia C](#), [Amicarelli F](#), [Canuto RA](#), [Cerù MP](#). Department of Basic and Applied Biology, University of L'Aquila, L'Aquila, Italy. [cimini@univaq.it](mailto:cimini@univaq.it)

<sup>2</sup> [Int J Cancer](#). 2004 Dec 20;112(6):909-19. An overview of the effect of linoleic and conjugated-linoleic acids on the growth of several human tumor cell lines. [Maggiore M](#), [Bologna M](#), [Cerù MP](#), [Possati L](#), [Angelucci A](#), [Cimini A](#), [Miglietta A](#), [Bozzo F](#), [Margiotta C](#), [Muzio G](#), [Canuto RA](#). Dipartimento di Medicina e Oncologia Sperimentale, Università di Torino, Torino, Italy.

## Glioblastoma Brain Cancer Alternative Treatment

### Curcumin / Turmeric

Curcumin has been verified as an anti-cancer compound via multiple molecular targets. Its effective mechanisms include cell cycle arrest (cell copying itself), inducing normal cell death (apoptosis), suppressing oncogenes (cancer growth genes), and enhancing tumor suppressor genes. In this study the efficacy of curcumin was testing in DBTRG cells in a laboratory setting. Curcumin exhibits superior cytotoxicity (cell toxicity) on glioblastoma in a dose and time dependent manner.

*This is for the physicians:*

Curcumin enhances p53 and p21 pathways, suppressed cdc2, inhibits RB pathway, suppresses phosphorylated RB, and suppresses Bax and caspases 3. Researchers stated: *"Curcumin appears to be an effective anti-glioblastoma drug through inhibition of the two core signaling pathways and promotion of the apoptotic pathway."*<sup>3</sup>

Researchers at Université du Québec à Montréal- Hôpital Sainte-Justine, in Montréal, Canada state, *"Among the natural products shown to possess chemopreventive and anticancer properties,*

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<sup>3</sup> [Int J Mol Med](#). 2010 Aug;26(2):217-24. The anti-cancer efficacy of curcumin scrutinized through core signaling pathways in glioblastoma. Su CC, Wang MJ, Chiu TL. Division of General Surgery, Buddhist Tzu Chi General Hospital, Hualien 97004, Taiwan, R.O.C.

*curcumin is one of the most potent."* They investigated the effects of this natural product on the growth of human glioma U-87 cell that were transplanted into mice. Curcumin exerted significant anti-tumor effects on subcutaneous (just under the skin) and intracerebral (in the brain) gliomas. Curcumin slowed tumor growth rate and increased animal survival time. The mechanisms of the anti-tumor effects were partly related to the inhibition of angiogenesis (growth of new blood vessels to the tumor).<sup>4</sup>

Researchers at Department of Neurosurgery, Institute of Molecular Medicine and Genetics, Medical College of Georgia, Augusta, Georgia studied the effect of curcumin in human (T98G, U87MG, and T67) and rat (C6) glioma cell lines. They found curcumin sensitized glioma cells to chemotherapy agents cisplatin, etoposide, camptothecin and doxorubicin and radiation. The researchers state, *"These findings support a role for curcumin as an adjunct to traditional chemotherapy and radiation in the treatment of brain cancer."*<sup>5</sup>

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<sup>4</sup> [Mol Nutr Food Res](#). 2010 Aug;54(8):1192-201. Curcumin inhibits tumor growth and angiogenesis in glioblastoma xenografts. Perry MC, Demeule M, Régina A, Moudjjan R, Béliveau R. Laboratoire de médecine moléculaire, Université du Québec à Montréal- Hôpital Sainte-Justine, Montréal, Canada. perry.marie-claude@courrier.uqam.ca  
<sup>5</sup> [J Neurochem](#). 2007 Jul;102(2):522-38. Curcumin suppresses growth and chemoresistance of human glioblastoma cells via AP-1 and NFkappaB transcription

## Glioblastoma Brain Cancer Alternative Treatment

Curcumin inhibits glioblastoma brain cancer cell growth via many cellular mechanisms.<sup>6 7 8</sup>

At the time of publication, curcumin's anti-cancer effect for all cancers has been published in over 1,330 medical research articles.

There have been limited animal studies. There have not been any human studies. There are not any studies showing concerns or failure of response.

Even though curcumin is not well absorbed when taken orally researchers believe it should be used in phase II and phase III human cancer studies.<sup>9</sup>

Researchers in India demonstrated that taking piperine with curcumin increased brain levels of curcumin.<sup>10</sup>

Earlier research demonstrates that taking piperine with curcumin can increase human curcumin levels by up to 2,000%.<sup>11</sup>

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Do not be alarmed if you notice dark yellow to orange urine while taking curcumin and piperine. This is evidence that piperine is increasing your blood levels of curcumin and eliminating curcumin through the kidneys. During cancer treatment I would allow the urine to remain dark, but not cloudy, to ensure high blood levels.

The dark urine and cloudiness may create some confusion when a lab or doctor does a UA (urinalysis). If you are scheduled to do a UA you may want to avoid curcumin with Bioperine for 24 hours prior to the UA.

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factors. [Dhandapani KM](#), [Mahesh VB](#), [Brann DW](#). Department of Neurosurgery, Institute of Molecular Medicine and Genetics, Medical College of Georgia, Augusta, Georgia 30912, USA. [kdhandapani@mcg.edu](mailto:kdhandapani@mcg.edu)

<sup>6</sup> [Neurochem Res](#). 2007 Dec;32(12):2103-13. Curcumin suppressed anti-apoptotic signals and activated cysteine proteases for apoptosis in human malignant glioblastoma U87MG cells. [Karmakar S](#), [Banik NL](#), [Ray SK](#). Department of Neurosciences, Medical University of South Carolina, Charleston, SC 29425, USA.

<sup>7</sup> [Neurosci Lett](#). 2006 Oct 16;407(1):53-8. Curcumin activated both receptor-mediated and mitochondria-mediated proteolytic pathways for apoptosis in human glioblastoma T98G cells. [Karmakar S](#), [Banik NL](#), [Patel SJ](#), [Ray SK](#). Department of Neurosciences, Medical University of South Carolina, 96 Jonathan Lucas Street, Suite 323K, P.O. Box 250606, Charleston, SC 29425, USA.

<sup>8</sup> [Brain Tumor Pathol](#). 2005;22(2):79-87. Expression of the constitutively activated RelA/NF-kappaB in human astrocytic tumors and the in vitro implication in the regulation of urokinase-type plasminogen activator, migration, and invasion. [Tsunoda K](#), [Kitange G](#), [Anda T](#), [Shabani HK](#), [Kaminogo M](#), [Shibata S](#), [Nagata I](#). Department of Neurosurgery, Nagasaki University School of Medicine, 1-7-1 Sakamoto-machi, Nagasaki 852-8501, Japan.

[ketsuno@net.nagasaki-u.ac.jp](mailto:ketsuno@net.nagasaki-u.ac.jp)  
<sup>9</sup> [Arch Pharm \(Weinheim\)](#). 2010 Aug 19. Curcumin in Cancer Chemoprevention: Molecular Targets, Pharmacokinetics,

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Bioavailability, and Clinical Trials. [Shehzad A](#), [Wahid F](#), [Lee YS](#). School of Life Sciences and Biotechnology, College of Natural Sciences, Kyungpook National University, Taegu, Korea.

<sup>10</sup> [Indian J Med Res](#). 2010 May;131:692-5. Adult attention deficit/hyperactivity disorder: one year follow up. [Sitholey P](#), [Agarwal V](#), [Tripathi A](#). Department of Psychiatry, C.S.M. Medical University, Lucknow, India.

<sup>11</sup> [Planta Med](#). 1998 May;64(4):353-6. Influence of piperine on the pharmacokinetics of curcumin in animals and human volunteers. [Shoba G](#), [Joy D](#), [Joseph T](#), [Majeed M](#), [Rajendran R](#), [Srinivas PS](#). Department of Pharmacology, St. John's Medical College, Bangalore, India.

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Piperine / Bioperine has not been studied with GBM.

Additional piperine / Bioperine information is available at <http://www.bioperine.com/curcumin.html>

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CurcuPlex Cr contains curcumin.

[In my practice I use CurcuPlex CR.](#)  
[Click here to learn more about CurcuPlex Cr.](#)

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## Glioblastoma Brain Cancer Alternative Treatment

### EGCG (epigallocatechin-3-gallate)

The Department of Neurosciences, Medical University of South Carolina, Charleston, SC, induced apoptosis (normal cell death) in human glioblastoma T98G and U87MG laboratory cells after treatment (-)-epigallocatechin-3-gallate (EGCG). Their results strongly suggest that EGCG is potential therapeutic agents for induction of apoptosis in human glioblastoma cells.<sup>12</sup>

Researchers in Germany treated three glioblastoma cell lines (U87, A172 and U251) with EGCG. EGCG treatment down regulated tumor cell growth via PEA15 and Akt (PKB) mechanisms.<sup>13</sup>

Canadian researchers found EGCG down regulated glioblastoma cancer cell growth via multiple MMP-mediated cellular events.<sup>14</sup>

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<sup>12</sup> [Cancer](#). 2010 Jan 1;116(1):164-76. Flavonoids activated caspases for apoptosis in human glioblastoma T98G and U87MG cells but not in human normal astrocytes. Das A, Banik NL, Ray SK. Department of Neurosciences, Medical University of South Carolina, Charleston, SC 29209, USA.

<sup>13</sup> [Neurosci Lett](#). 2008 Dec 19;448(1):161-5. Epigallocatechin-3-gallate (EGCG) downregulates PEA15 and thereby augments TRAIL-mediated apoptosis in malignant glioma. Siegelin MD, Habel A, Gaiser T. Department of Neuropathology, University Hospital Heidelberg, Im Neuenheimer Feld 220, 69120 Heidelberg, Germany.

<sup>14</sup> [Biochim Biophys Acta](#). 2002 Jan 30;1542(1-3):209-20. Green tea polyphenol (-)-epigallocatechin 3-gallate inhibits MMP-2 secretion and MT1-MMP-driven migration in glioblastoma cells. Annabi B, Lachambre MP, Bousquet-Gagnon N, Page M, Gingras D, Beliveau R. Centre de Cancérologie Charles-Bruneau, Hôpital Ste-Justine et Université du Québec à Montréal, C.P. 8888, Succ. Centre-ville, H3C 3P8, Montreal, QC, Canada.

Low doses of EGCG induced apoptosis (normal cell death) and in glioblastoma cell lines U-373 MG, U-87 MG and C6. IFG-1 may be involved in the effects of EGCG.<sup>15</sup>

EGCG products may have a small amount of caffeine. Therefore some people may have a caffeine sensitivity. If this happens you should take the product earlier in the day and not at night.

There have not been any human GBM studies with EGCG. There have not been any animal GBM studies with EGCG.

There have not been any failures of response with EGCG glioblastoma cancer studies.

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GreenTea 600 by Xymogen has EGCG.

[I use GreenTea 600 in my practice. Click here to learn more about GreenTea 600.](#)

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<sup>15</sup> [Neuro Oncol](#). 2001 Jan;3(1):22-8. Inhibitory effect of epigallocatechin-gallate on brain tumor cell lines in vitro. Yokoyama S, Hirano H, Wakimaru N, Sarker KP, Kuratsu J. Department of Neurosurgery, Faculty of Medicine, Kagoshima University, Japan.

## Glioblastoma Brain Cancer Alternative Treatment

### Quercetin

Laboratory studies found quercetin effectively blocked migration and invasion of U87 glioblastoma cells while inhibiting COX-2/PGE(2) production, MMP-9 enzyme activity and peroxide production.

Researchers believe quercetin possesses the potential to be developed for use against migration and invasion by glioblastomas.<sup>16</sup>

Three natural flavonol compounds were studied for their anti-cancer effect. Quercetin was found to be the most potent against U251 human glioblastoma cells.<sup>17</sup>

There are no human glioblastoma studies with quercetin. There are no animal glioblastoma studies with quercetin. There are no failures tumor responses to quercetin.

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Resveratin Plus contains Quercetin.

[In my practice I use Resveratin Plus for source of Quercetin. Click here to learn more about Resveratin.](#)

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<sup>16</sup> [Neurobiol Dis.](#) 2010 Jan;37(1):118-29. Contribution of reactive oxygen species to migration/invasion of human glioblastoma cells U87 via ERK-dependent COX-2/PGE(2) activation. [Chiu WT](#), [Shen SC](#), [Chow JM](#), [Lin CW](#), [Shia LT](#), [Chen YC](#). Department of Neurosurgery, Taipei Medical University-Shuang Ho Hospital, Taipei, Taiwan.

<sup>17</sup> [Z Naturforsch C.](#) 2002 Nov-Dec;57(11-12):1092-5. Flavonols from *Scurrula ferruginea* Danser (Loranthaceae). [Lohézic-Le Dévéhat F](#), [Tomasi S](#), [Fontanel D](#), [Boustie J](#). Laboratoire de Pharmacognosie et de Mycologie, UPRES 2234, Rennes Cedex. [lohezic.francoise@libertysurf.fr](mailto:lohezic.francoise@libertysurf.fr)



## Glioblastoma Brain Cancer Alternative Treatment

### Resveratrol

Resveratrol treatment of human glioblastoma cells induces a delay in cell cycle progression during S phase. This slows cancer cell growth by interfering with cells dividing and making copies of themselves.<sup>18 19</sup>

Research in Italy found resveratrol inhibited glioblastoma invasiveness by decreasing MMP-2 mRNA and SPARC gene and protein levels.<sup>20</sup>

Pterostilbene (PS), a natural dimethylated analogue of resveratrol, is known to have diverse pharmacologic activities including anticancer, anti-inflammation, antioxidant, apoptosis, antiproliferation, and analgesic potential.<sup>21</sup>

Resveratrol and pterostilbene have not been studied in animal nor human glioblastomas. There have not been any studies showing failure of response on glioblastoma cells.

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Resveratin Plus contains Resveratrol and Pterostilbene.

[I use Resveratin Plus in my clinical nutrition practice for my source of resveratrol. Click here to learn more about Resveratin.](#)

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<sup>18</sup> [Cancer Lett.](#) 2010 Sep 28;295(2):167-72. Resveratrol induces DNA double-strand breaks through human topoisomerase II interaction. [Leone S](#), [Cornetta T](#), [Basso E](#), [Cozzi R](#). Dipartimento di Biologia, Università degli Studi Roma Tre, Roma, Italy.

<sup>19</sup> [Mol Carcinog.](#) 2008 Aug;47(8):587-98. Resveratrol and X rays affect gap junction intercellular communications in human glioblastoma cells. [Leone S](#), [Fiore M](#), [Lauro MG](#), [Pino S](#), [Cornetta T](#), [Cozzi R](#). Dipartimento di Biologia, Università Roma TRE, Rome, Italy.

<sup>20</sup> [Biomed Pharmacother.](#) 2005 Aug;59(7):359-64. Effect of resveratrol on matrix metalloproteinase-2 (MMP-2) and Secreted Protein Acidic and Rich in Cysteine (SPARC) on human cultured glioblastoma cells. [Gagliano N](#), [Moscheni C](#), [Torri C](#), [Magnani I](#), [Bertelli AA](#), [Gioia M](#). Department of Human Morphology, University of Milan, Via Fratelli Cervi 93, 20090 LITA Segrate, Milan, Italy.

[nicoletta.gagliano@unimi.it](mailto:nicoletta.gagliano@unimi.it)

<sup>21</sup> [J Agric Food Chem.](#) 2010 Aug 11;58(15):8833-41. Pterostilbene inhibits colorectal aberrant crypt foci (ACF) and colon carcinogenesis via suppression of multiple signal transduction pathways in azoxymethane-treated mice. [Chiou YS](#), [Tsai ML](#), [Wang YJ](#), [Cheng AC](#), [Lai WM](#), [Badmaev V](#), [Ho CT](#), [Pan MH](#). Department of Seafood Science, National Kaohsiung Marine University, Kaohsiung 811, Taiwan

## Glioblastoma Brain Cancer Alternative Treatment

### Important Natural Cancer Treatment Pearls!

1. EGCG enhances the effectiveness of curcumin. I almost always give EGCG with curcumin.
2. Low doses of EGCG, Curcumin and Resveratrol work as antioxidants, reduces the risk of cancer, repair cells and may interfere with chemotherapy and radiation effectiveness. *High doses work as pro-oxidants, reduce the risk of cancer, damage cancer cells and may enhance chemotherapy and radiation effectiveness.*<sup>22</sup>
3. Piperine enhances the absorption and blood levels of EGCG<sup>23</sup>, Curcumin<sup>24</sup> and Resveratrol<sup>25</sup>.

4. The combination of these items enhances the effectiveness of each other.

Click on the following links to learn about

[ConjuLean](#)

[CurcuPlex](#)

[Green Tea 600](#)

[Resveratin Plus](#)

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<sup>22</sup> Journal of Cellular Biochemistry. 2015 Feb 3. Mechanism of dose-dependent regulation of UBE1L by polyphenols in human bronchial epithelial cells. Jiang A1, Li Y, Wang P, et al.

<sup>23</sup> [Journal of Nutrition](#). 2004

Aug;134(8):1948-52. Piperine enhances the bioavailability of the tea polyphenol (-)-epigallocatechin-3-gallate in mice. Lambert JD1, Hong J, et al. Department of Chemical Biology, Ernest Mario School of Pharmacy, Rutgers, State University of New Jersey, Piscataway, NJ 08854, USA

<sup>24</sup> *Planta Medica*. 1998 May;64(4):353-6.

Influence of piperine on the pharmacokinetics of curcumin in animals and human volunteers. Shoba G1, Joy D, et al. Department of Pharmacology, St. John's Medical College, Bangalore,

<sup>25</sup> *Molecular Nutrition and Food Research*. 2011 Aug;55(8):1169-76. Enhancing the bioavailability of resveratrol by combining

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it with piperine. Johnson JJ1, Nihal M, et al. Department of Pharmacy Practice, College of Pharmacy, University of Illinois at Chicago, Chicago, IL, USA.

# **Glioblastoma Brain Cancer Alternative Treatment**

## **Alternative Cancer Treatment Consultations**

*I know, all this information is overwhelming! You have doctors telling you one thing, family members telling you another idea, others trying to get you to buy their networking supplement and now my Natural Cancer Report providing some amazing medical scientific information.*

***I believe, in the deepest parts of my heart, that the products, food and lifestyle listed in this report and other reports based on your current cancer treatment program, will provide you the best outcome.***

Each person, cancer and treatment program is unique. Therefore your diet, lifestyle and supplement selection should be based on your unique needs.

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