Record Nr. UNINA9910300371603321 Autore Köritzer Julia Titolo Biophysical Effects of Cold Atmospheric Plasma on Glial Tumor Cells // by Julia Köritzer Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Springer,, 2014 **ISBN** 3-319-06224-7 Edizione [1st ed. 2014.] Descrizione fisica 1 online resource (85 p.) Collana Springer Theses, Recognizing Outstanding Ph.D. Research, , 2190-5053 Disciplina 616.99481 Soggetti Medical physics Radiation Cancer research Plasma (Ionized gases) **Biophysics** Biological physics Medical and Radiation Physics Cancer Research Plasma Physics Biological and Medical Physics, Biophysics Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia "Doctoral Thesis accepted by Ludwig Maximilian University of Munich, Note generali Germany." Nota di bibliografia Includes bibliographical references. Nota di contenuto Summary -- Introduction -- Materials and Methods -- Results --Discussion -- Assessment and Outlook -- Supplementary Data --References. Cold atmospheric plasma is an auspicious new candidate in cancer Sommario/riassunto treatment. Cold atmospheric plasma (CAP) is a partially ionized gas in which the ion temperature is close to room temperature. It contains electrons, charged particles, radicals, various excited molecules and UV photons. These various compositional elements have the potential to inhibit cancer cell activity whilst doing no harm to healthy cells.

Glioblastoma (GBM) is the most common and lethal primary brain tumor in adults; treatment including surgery, radio- and chemotherapy

remains palliative for most patients as a cure remains elusive. The successful combination of the standard chemotherapeutic temozolomide (TMZ) and CAP treatment features synergistic effects even in resistant glioma cells. In particular in glioma therapy, CAP could offer an innovative approach allowing specific cancer cell / tumor tissue inhibition without damaging healthy cells. Thus CAP is a promising candidate for combination therapy especially for patients suffering from GBMs showing TMZ resistance.