Annexure

A.1 MATERIALS

Ludox silica nanoparticles (HS40 and TM40), adenosine 5'-triphosphate disodium salt hydrate (ATP), N-Acetyl-L-cysteine, Lipopolysaccharides, Protease inhibitor, 3-(4,5-dimethylthiazol-2-yl)-2,5 diphenyltetrazolium bromide (MTT), cytochalasin-D, ac-YVAD-cmk, and glyburide were purchased from Sigma. All cell culture reagents were obtained from Sigma-Aldrich. Lipofectamine® 2000 and Opti-MEM were purchased from Thermo scientific. AIM2 siRNA and scrambled (negative Control) siRNA were purchased from Dharmacon. NLRP12 siRNA was obtained from Sigma. General laboratory consumables were purchased from Nunc, Sigma, Himedia, Tarsons, Corning, and Abdos.

Table A.1.1: List of Antibodies Used in the Study

Serial Number	Antibodies	Company	Host animal
1	NLRC4	Sigma-Aldrich	Rabbit
2	NLRP12	GeneTex	Rabbit
3	NLRP3	Novus Biologicals	Rabbit
4	AIM2	Sigma-Aldrich	Rabbit
5	ASC	Cell-signaling technology	Rabbit
6	Caspase-3	Cell-signaling technology	Rabbit
7	GFAP	Cell-signaling technology	Mouse
8	β actin	Santa-Cruz Biotechnology	Mouse
9	Alexa fluor-594 anti-rabbit	Life technologies	Goat
10	Alexa fluor-594 anti-mouse	Life technologies	Goat

A.1.2: List of cell lines used in the study

Serial Number	Name	**Morphology**	**Source**
1.	BV2	Mouse microglia cell line	Gifted
2.	A549	Human lung alveolar epithelial cells	ECACC
3.	CHO	Chinese hamster fibroblasts	Himedia
4.	HUVEC	Human umbilical vein endothelial cells	Himedia

A.1.3: Glioma patients: clinical synopsis of the glioma specimens obtained for the study

S.No.	Sex/Age	Grade	Region	Mutation
1	M/21	WHO Grade IV	Left Frontal	IDH1R132H mutant postive
2	M/32	Glioblastoma (WHO grade IV)	Left Parietal	IDH mutant negative
3	M/33	Glioblastoma (WHO grade IV)	Right Frontal	methylated for MGMT promoter region.
4	M/37	Infiltrating astrocytic tumour(WHO grade IV)	Left Temporal	methylated for MGMT promoter region.
5	M/46	Glioblastoma (WHO grade IV)	Left Temporo-Parietal	IDH mutant negative
6	M/47	Glioblastoma (WHO grade IV)	Left Frontal	IDH mutant positive
7	M/53	Glioblastoma (WHO grade IV)	Right Temporal	methylated for MGMT promoter region.
8	M/53	Glioblastoma, WHO grade IV	Parieto-Occipital	methylated for MGMT promoter region.
9	M/53	Glioblastoma (WHO grade IV)	Left Parietal	methylated for MGMT promoter region.
10	M/53	Glioblastoma (WHO grade IV)	Right Parietal	IDH mutant negative
11	M/56	Glioblastoma (WHO grade IV)	Left Frontal	IDH mutant negative
12	M/56	Glioblastoma (WHO grade IV)	Left Temporal	methylated for MGMT promoter region.
13	M/59	Glioblastoma, WHO grade IV	Left Frontal	IDH mutant positive,methylated for MGMT promoter region.
14	M/62	Glioblastoma (WHO grade IV)	Left Fronto-Parietal	methylated for the MGMT promoter region.
15	M/66	Glioblastoma (WHO grade IV)	Right Frontal	IDH mutant positive
16	M/66	Glioblastoma (WHO grade IV)	Left Temporal	methylated for MGMT promoter region.
17	M/67	Glioblastoma (WHO grade IV)	Left Frontal	IDH mutant negative
18	M/74	Glioblastoma (WHO grade IV)	Left Temporal	IDH mutant negative
1	M/19	Low grade astrocytic tumor (WHO Grade I)	Left Fronto-Temporal	Low grade astrocytic tumor
2	M/23	Anaplastic astrocytoma (WHO Grade III)	Right Frontal	IDH mutant positive
3	M/32	Anaplastic oligodendroglioma(WHO Grade III)	Right Frontal	IDH mutant negative
4	M/33	Anaplastic Oligodendroglioma(WHO GradeIII)	Right Frontal	IDH-mutant positive
5	M/33	High grade astrocytic tumor (WHO Grade III)	Corpus Callosum	methylated for MGMT promoter region
6	M/33	Anaplastic astrocytoma(WHO Grade III)	Right Frontal	IDH mutant postive
7	M/35	Anaplastic oligodendroglioma (WHO Grade III)	Left Frontal	IDH mutant postive
8	M/38	Low grade glioma	Left Parietal	IDH mutant positive
9	M/47	Anaplastic oligodendroglioma, WHO Grade III	Right Frontal	IDH muatnt negative
10	M/56	High grade infiltrating glial tumour of oligodendroglial phenotype, WHO Grade III	Right Frontal	IDH1R132S mutant positive

A.1.4: Details of the chemokines and cytokines used in multiplex microarray for glioma study

Name	Functions and pathways involved
Monocyte chemoattractant protein (MCP-1)	Angiogenesis, chemotaxis, inflammation, and recruitment of microglia and macrophages Interaction with CCR2 activates MAPK pathway
Regulated on activation, normally T-expressed, and secreted (RANTES)	Promotes macrophages and microglial infiltration Interaction with CCR5 activates AKT/PI3k pathway
Platelet-derived growth factor (PDGF-BB)	Glioma angiogenesis and migration Interaction with PDGFR-β activates AKT/PI3k and MAPK pathways
Vascular endothelial growth factor (VEGF)	Angiogenesis and vascular proliferation Interaction with VEGFR-1 and -2 activates AKT/PI3k and MAPK pathways
Granulocyte-macrophage colony-stimulating factor (GM-CSF) and Granulocyte colony-stimulating factor (G-CSF)	Recruits antigen-presenting cells and producing a cytotoxic T-cell response Activates JAK-STAT pathway
Interleukin- 1β(IL-1β)	Pro-inflammatory induces the production of other cytokines and chemokines such as MCP-1,IL-6 NF-κβ pathway activation
Interleukin-18 (IL-18)	Pro-inflammatory NF-κβ pathway activation
Interferon-γ (IFN-γ)	Anti-tumorigenic effects; induces IL-6 production Activates AKT/PI3k , JAK/STAT, and ERK pathways
Interleukin-6 (IL-6)	Potent pro-inflammatory cytokine promotes invasion and migration Binds to IL-6 receptor and activates JAK/STAT pathway
Interleukin-1 receptor antagonist (IL-Ra)	Anti-inflammatory; inhibits the IL-1 cytokine action Binds to IL-1 receptors, stops the activation of NF-κβ pathway activation
Interleukin-17 (IL-17)	Anti-cytotoxic effects; induces production of IL-6, G-CSF, and MCP-1 MAPK and NF-κβ pathway activation
Tumor necrosis factor α (TNFα)	The pro-apoptotic factor for tumor cells; mitochondrial dysfunction MAPK and NF-κβ pathway activation