Type of cells	Author	Content	Ref
Endothelial cells	Shayan G	Examination of the functional characterization of a reproducible *in vitro* model composed of murine BMEC co-cultured with rat primary astrocytes in the presence of biochemical inducing agents	1
	Patabendige A	*in vitro* BBB model using primary cultured BECs which is relatively simple to prepare, robust, and reliably gives high TEER	2
	Hatherell K	Different cell permutations were investigated to find the most effective model in terms of tight junction resistance of the human cerebral microvascular endothelial cells	3
	Watanabe T	assess the paracellular barrier properties of the immortalized mouse brain endothelial cell lines bEND.3, bEND.5 cells, and mouse brain endothelial cell 4 (MBEC4), and those of the primary mouse brain endothelial cells pMBECs	4
	Cucullo L	A humanized Dynamic *In vitro* Blood—Brain Barrier model (hDIV-BBB) based on a novel human brain vascular endothelial cell line (HCMEC/D3), which closely mimics the BBB *in vivo*.	5
Embryonic Stem Cells	Uzzaman M	Assess the proapoptotic effects of transgenic trail delivered by ESC- derived astrocytes on malignant gliomas in vivo	6
	Germano IM	Evaluation the proapoptotic effects of embryonic stem cell (ESC)-mediated *mda-7/IL-24* delivery to malignant glioma cell lines	7
Neural Stem Cells	Walker P.A	The barriers and opportunities of progenitor cell therapies for TBI	8
	Wallenquist U	Grafted neural progenitors migrate and form neurons after experimental TBI	9
	Barkho B.Z	Response of adult neural stem cells to stroke injury and their potential role in therapeutic applications	10
	Skardelly M	Long-term benefit of human fetal neuronal progenitor cell transplantation in a clinically adapted model after TBI	11
	Sun D	Sustained survival and maturation of adult neural stem/progenitor cells after transplantation into the injured brain	12
	Donega, M	Systemic injection of neural stem progenitor cells in mice with chronic EAE	13
	Hosseini S.M	Combination cell therapy with MSCs and NSCs for brain stroke in rats	14
	Rolfe A	Implications for Repair and Regeneration of Injured Brain in Experimental TBI Models using stem cell therapy	15
	Dobrowolski	Stem cells in TBI	16
	Rolfe A	Implications for Repair and Regeneration of Injured Brain in Experimental TBI Models using stem cell therapy	15
	Lippmann ES	Optimization of NPC differentiation to induce *in vivo* like BBB phenotype in rat BMECs	17
Induced Pluripotent cells	Kobayashi Y	Pre-evaluated safe human iPSC-derived neural stem cells promote functional recovery after spinal cord injury in common marmoset without tumorigenicity	18
	Dobrowolski	Stem cells in traumatic brain injury	16

	Dunkerson J	Combining enriched environment and induced pluripotent stem cell therapy results in improved cognitive and motor function following traumatic brain injury	19
	Rolfe A	A Implications for Repair and Regeneration of Injured Brain in Experimental TBI Models using stem cell therapy	15
	Destefano J	Evaluation of the role of shear stress in modulating the morphology, motility, proliferation, apoptosis, and protein and gene expression, of confluent monolayers of human brain microvascular endothelial cells derived from iPSCs	20
Mesanchymal Stem cells	Studeny M	Evaluation of MSCs to deliver IFN-B to tumor, reducing toxicity	21
	Xu G	The effect of using genetically modified MSCs to treat malignant gliomas in rats	22
	Laura S	Explore the engineering potential, fate, and therapeutic efficacy of human MSCs in a highly malignant and invasive model of glioblastoma	23
	Chio S	Evaluation of the characteristics and therapeutic potentioal of human MSCs and prodrug gene therapy against diffuse pontine gliomas	24
	Tajiri N	Intravenous transplants of human adipose-derived stem cell protect the brain from TBI-induced neurodegeneration and motor and cognitive impairments	25
	Mahmood A	Long-lasting benefits after treatment of TBI in rats with combination therapy of marrow stromal cells and simvastatin	26
	Li L	Transplantation of marrow stromal cells restores cerebral blood flow and reduces cerebral atrophy in rats with traumatic brain injury TBI: in vivo MRI study	27
	Anbari F	Intravenous transplantation of bone marrow mesenchymal stem cells promotes neural regeneration after TBI	28

Supplementary Table 1- Recent studies on various types of cells in *in vitro* BBB models

1 Shayan, G., Choi, Y. S., Shusta, E. V., Shuler, M. L. & Lee, K. H. Murine in vitro model of the blood–brain barrier for evaluating drug transport. *European Journal of Pharmaceutical Sciences* **42**, 148-155 (2011).

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