

Applications of Biomaterials in Neurological Diseases

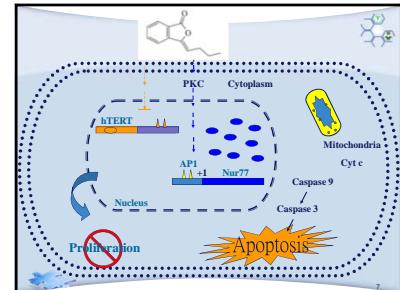
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Gliadel® Implantable Wafers

Bio-Month Survival: GBM Population

Overall Survival: Total Population

<http://www.gliadel.com/cgp/trials/recurrent.aspx>



Gliadel™ Wafer implant

- A sterile, off-white to pale yellow wafer approximately 1.45 cm in diameter and 1 mm thick.
- Each wafer contains 192.3 mg of a biodegradable poly(ether amide) copolymer and 7.7 mg of carmustine [1,3-bis(2-chloroethyl)-1-nitrosourea; or BCNU].
- Poly(ether amide) copolymer (polifeprosan 20) consists of poly[bis(p-carboxyphenoxy)propane: sebacic acid] in a 20:80 molar ratio.
- More than 70% of the copolymer degrades by three weeks

BP

Angelica sinensis 嘉藥

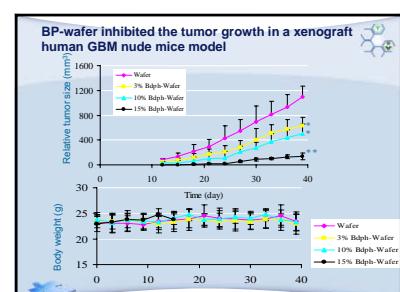
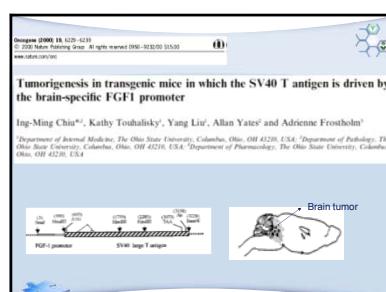
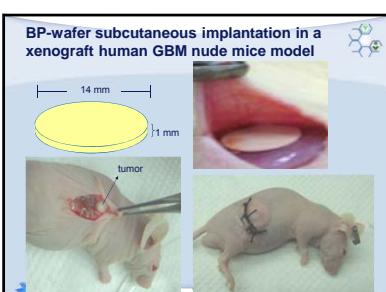
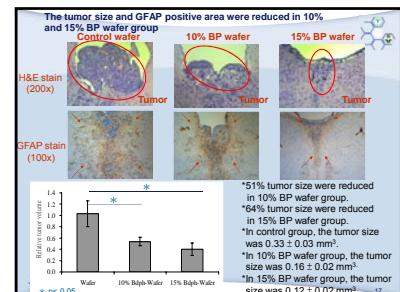
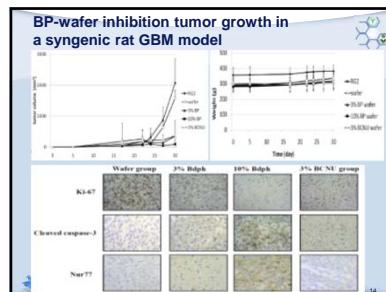
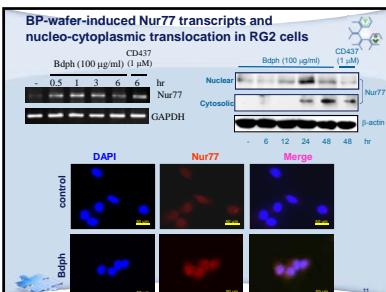
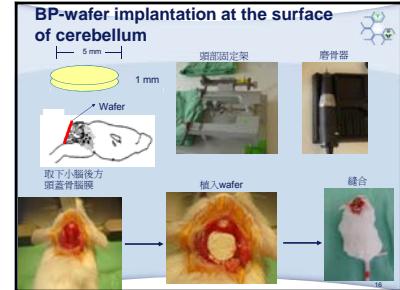
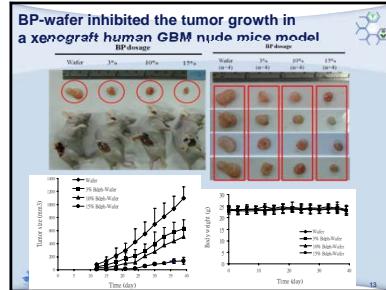
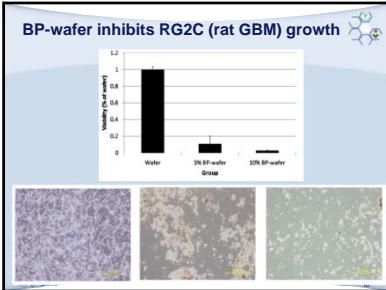
- Lipid soluble
- Low toxicity
- Small molecule

Polymer: p(CPP-SA)

癸二酸 (sebacic acid : SA) 和 1,3-雙羧基對苯丙酮 (1,3-bis(4-carboxyphenoxy)propane : CPP)

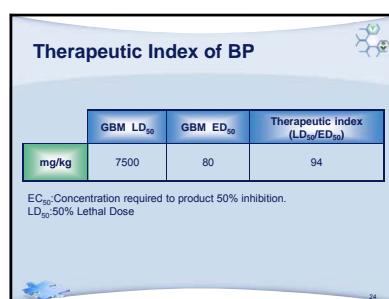
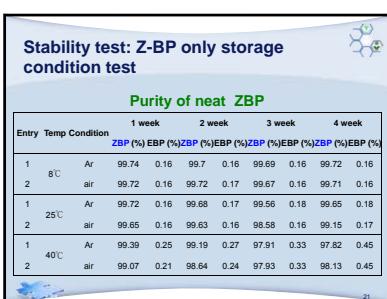
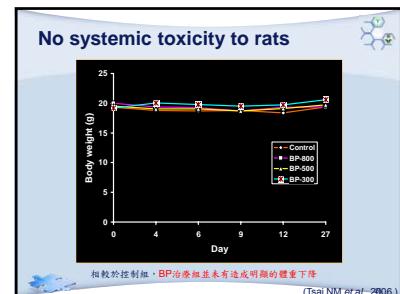
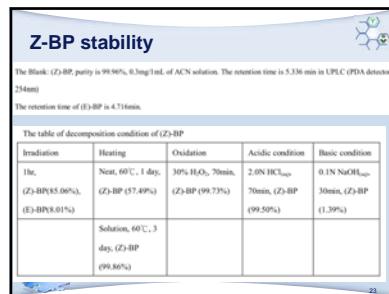
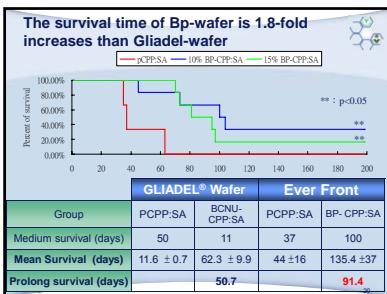
p(CPP-SA)

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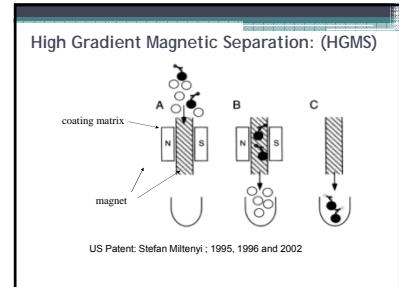
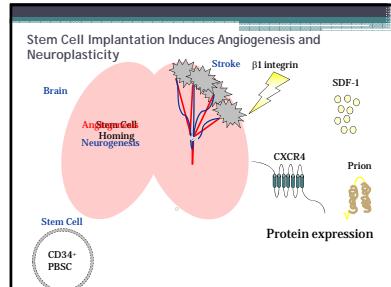


Stability test: ZBP-CPPSA only storage condition test										
Entry	Temp	Condition	1 week		2 week		3 week		4 week	
			ZBP (%)	EBP(%)						
1	8°C	Ar	99.66	0.15	99.51	0.18	99.41	0.16	99.41	0.17
2	25°C	Ar	98.91	0.16	98.88	0.17	94.64	0.14	96.07	0.16
3	40°C	Ar	97.43	0.26	97.65	0.24	66.29	-	59.27	-

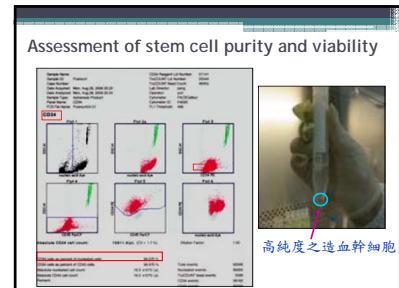


Conclusion

- ❖ BP-wafer has a potential to become a new drug for treating GBM
 - ❖ BP-wafer is filing IND to FDA
 - ❖ Plan to do pilot clinical trial in 6 patients

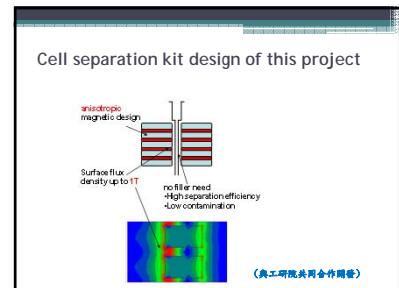
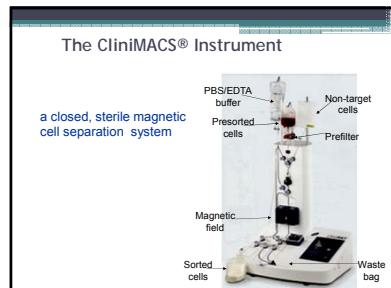


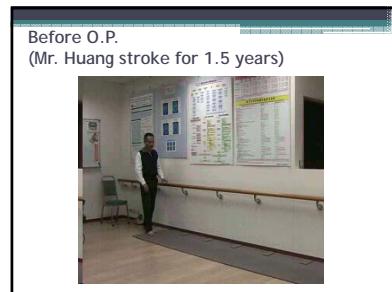
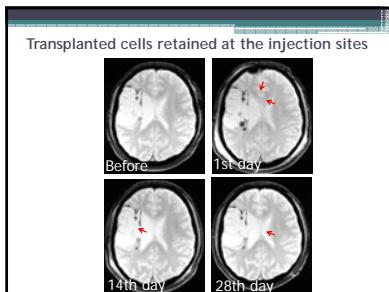
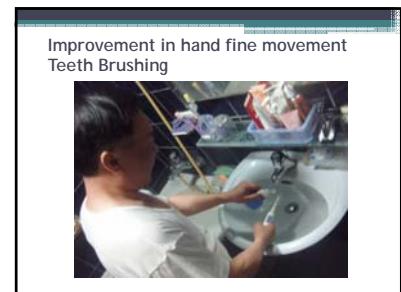
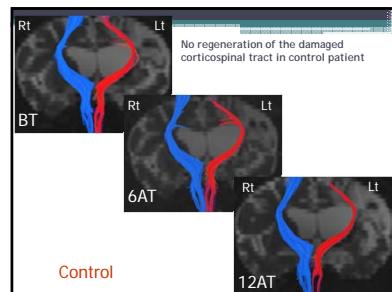
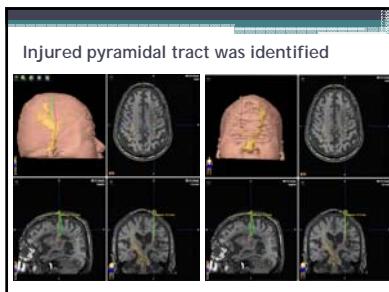
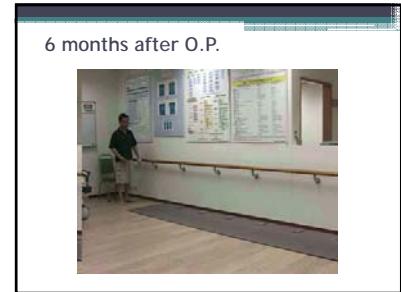
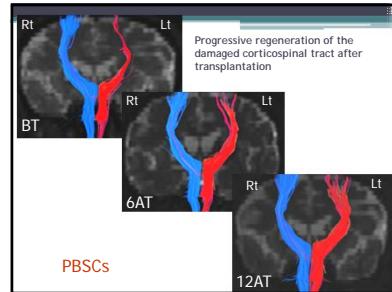
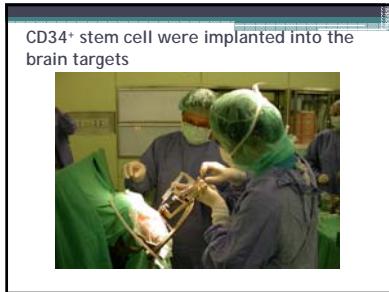
Cell Therapy in Neurological Diseases



Stroke induced hemiplegia

- Stem cell therapy — autologous CD34 stem cell implantation in injured corticospinal tract
 - (A) P.I. initialized clinical trials
(B) Founded by government, hospital and companies







Thank You !