



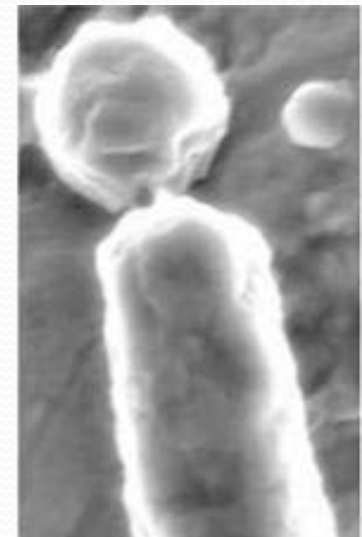
EnGeneIC Ltd

The EnGeneIC Delivery Vehicle (EDV) is a bacterially derived nanocell and is a platform technology for the targeted delivery of chemotherapeutics, siRNA, microRNA, plasmids and peptides directly to tumours.

Managing Directors- Dr Himanshu Brahmbhatt
Dr Jennifer MacDiarmid

In house management team comprising experienced CFO, and manufacturing and clinical trial managers. EnGeneIC is building on its existing business development resource by outsourcing to experienced business and commercialisation groups in the US and Japan.

Stellar group of advisors including Dr Bruce Stillman, President of Cold Spring Harbour lab, NY, Prof Ian Fraser (Gardasil), Roger Moore, previous Head of Novo Nordisk (Japan) and Mr Tom James (Foley & Lardner, Commercialisation, Washington, D.C.



Scanning electron micrograph

Jennifer MacDiarmid: jmacdiarmid@engeneic.com, mob 0407 953 170

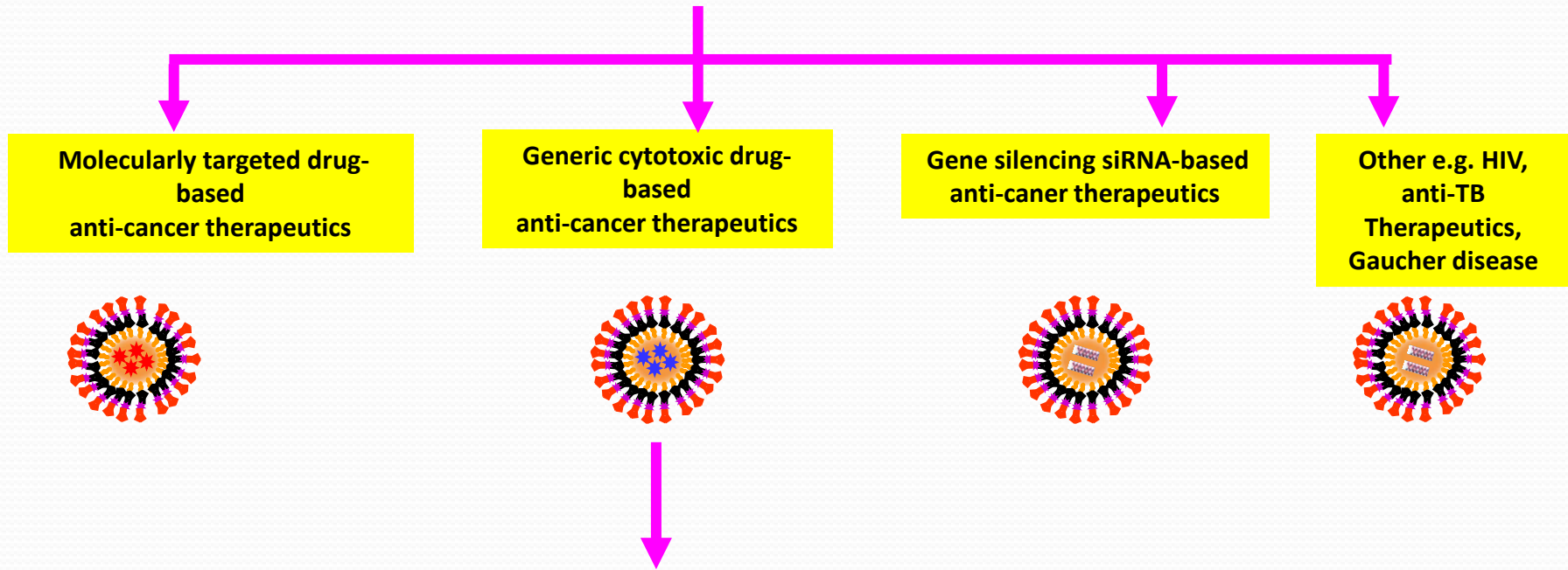
EnGeneIC – Highlights

- Established in 2001 in Sydney by Dr Himanshu Brahmbhatt and Dr Jennifer MacDiarmid, public unlisted company. All IP has been developed in-house
- 400 nanometer particle derived from bacterial minicells - Non-living / anucleate i.e. no parent DNA, virulence or mutation
- Readily packaged with a wide range of drugs, RNAi, plasmids and peptides & targeted to cancer cells using bi-specific antibodies – powerful armed antibodies
- Compared to alternative technologies e.g. armed antibodies and liposomal encapsulation systems:
 - Much greater payload: 1 million drug molecules versus 15,000 for liposomes
 - Ease of manufacturing and greater stability – one particle fits all
- Core technology/drug delivery publications in Cancer Cell (2007) and siRNA delivery (Nature Biotech 2009)
- Fundamental shift in the therapeutic index: safety and efficacy in a large, unmet market with as little as 1/10,000th of a normal dose & ~ 1 million-fold less mAb.
- Low cost of goods allows margin to be maintained while bringing the cost down – appeals to reimbursement bodies.



EnGeneIC – Stage of Development

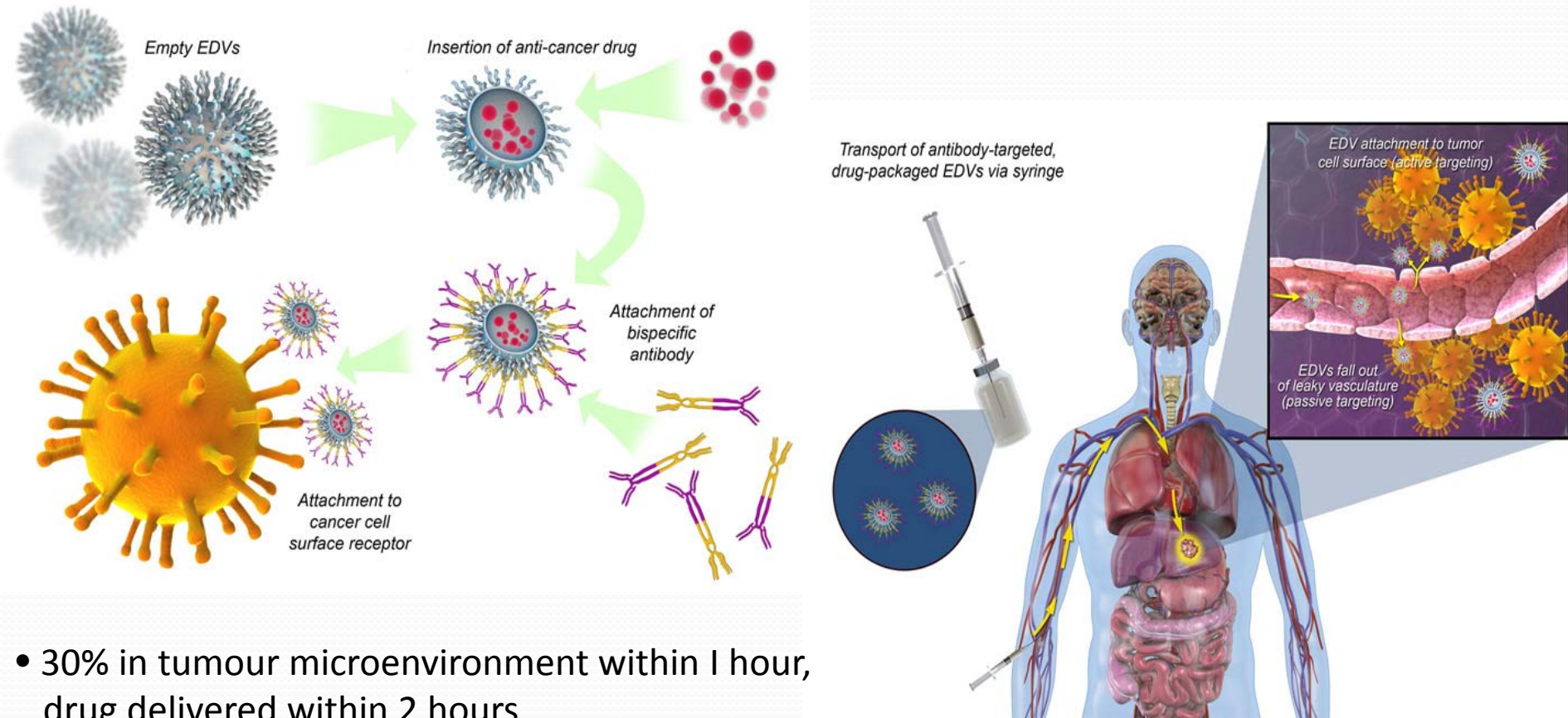
License EDV technology to
Major Pharmaceutical / Biotechnology companies



- Completed Phase I ^{Erbitux}EDVs_{paclitaxel} clinical trial in Melbourne – all comers
- 230 doses (cycle = 1 dose per week for 5 weeks) given in 22 patients. Ten patients received more than 10 doses, 2 patients more than 20 doses and 1 patient, 45 doses
- Significant safety profile

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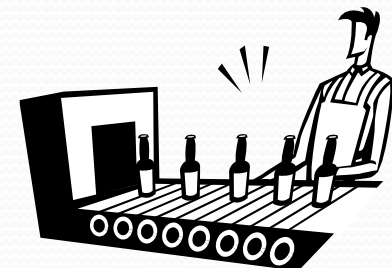
EnGeneIC – Mechanism of Action



- 30% in tumour microenvironment within 1 hour, drug delivered within 2 hours
- siRNA delivery to reverse drug resistance mechanisms in vivo
- $EGFR^{EDVs}_{Doxorubicin}$ gives dramatic symptom reversal & increased overall survival in dogs with brain cancer
- Safe in animals and now humans

EnGeneIC – Next Steps

- Phase IIa study to begin in Melbourne
- IND being prepared for FDA approval & potential brain cancer trial at Johns Hopkins
- Partner- funded trial to commence
- cGMP facility 50% funded by Australian government to be completed and obtain regulatory approval. This will allow Phase II material to be manufactured.
- Submit further patent applications & prosecute existing 7 patent families





EnGeneIC – Commercialisation Strategy

Licensing to Pharma or biotech for:

- arming antibodies with a very substantial payload – can overcome resistance such as Kras & other signalling mutations
- delivery of drugs with a dramatically increased therapeutic index
- delivery of siRNA and microRNA
- delivery of drugs that have failed tox & giving new patent life to generics

Competitive Advantage:

- One-stop shop – broad versatility which does not have to be re-engineered for different applications
- Bacterial cell wall which is tough and does not leak
- Not reliant on over-expressed receptor due to high degree of passive targeting
- Targeted, both passive due to size and active due to antibody coat – allows minute amount of therapeutic to be administered
- low cost of goods to allow re-imbursement by government agencies
- Can be lyophilised for ease of transport and storage

Partners:

Having proven safety, EnGeneIC is actively looking for partners and is engaged in proof-of-concept studies with two international pharma and one NSW- based biotech

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EnGeneIC – Financials

- Pre money valuation of \$47 million
- \$37 million raised over 4 funding rounds since 2001 plus 10 million in government & other grants
- \$3 million cash at hand at June 2011. Presently undertaking a new round.
- Ownership structure
 - Amwin & Champ - 37.4%
 - Momentum Ventures - 9.3%
 - Johnson - 10.4%
 - Woods Family - 8.9%
 - H&J - 10.6%
 - Others - 23.4

