

αvβ6-binding Peptides for Tumour Targeting and Imaging

Therapeutic Area	Oncology	Indications	Cancer
Modality	Peptide	Development Stage	Hit to Lead/Lead Optimization

Overview

Background

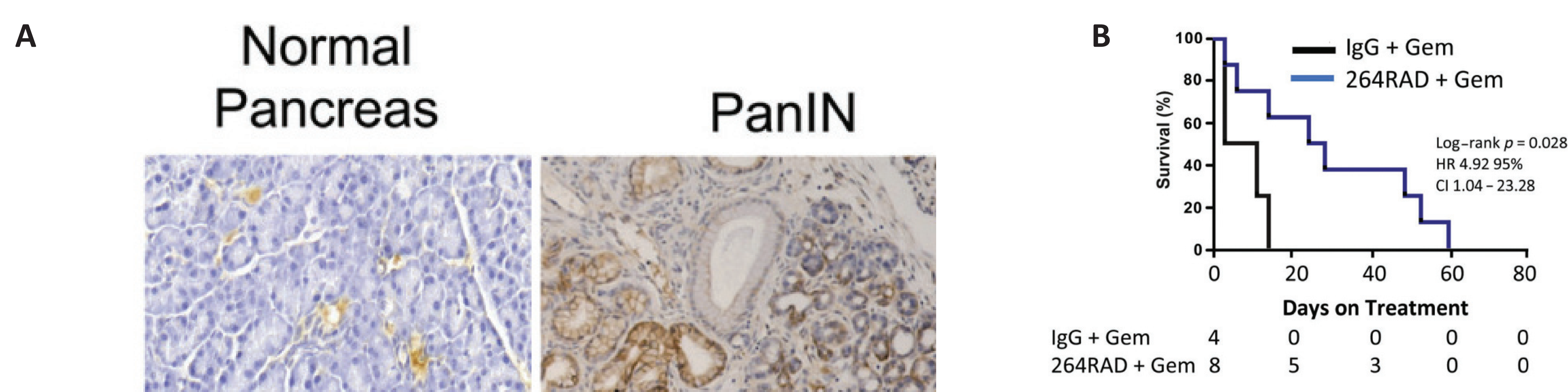
- The integrin αvβ6 is an exciting emerging target for both imaging and therapy across many common tumour types.
- Each year an estimated 279,000 αvβ6-positive tumours are diagnosed in the US & UK alone.
- The epithelial-specific integrin αvβ6 binds to RGD motifs in its ligands including fibronectin, tenascin and the latency-associated peptide (LAP) of TGFβ.
- Antibody-mediated blockade of αvβ6 has been demonstrated to inhibit tumour growth in vivo.
- In patients, elevated αvβ6 expression has been correlated with poor prognosis including in colorectal, ovarian and lung cancers.

Technology Advantages

- Novel and proprietary peptides with high affinity and selectivity for integrin αvβ6
- Lead peptide selectively targets αvβ6+ve tumours and fibrotic lesions in vivo for imaging and therapy
- Toxin-labelled A20FMDV2 controls or clears in vivo murine xenograft pancreatic tumours
- Clinical efficacy as PET tracer in solid tumour patients

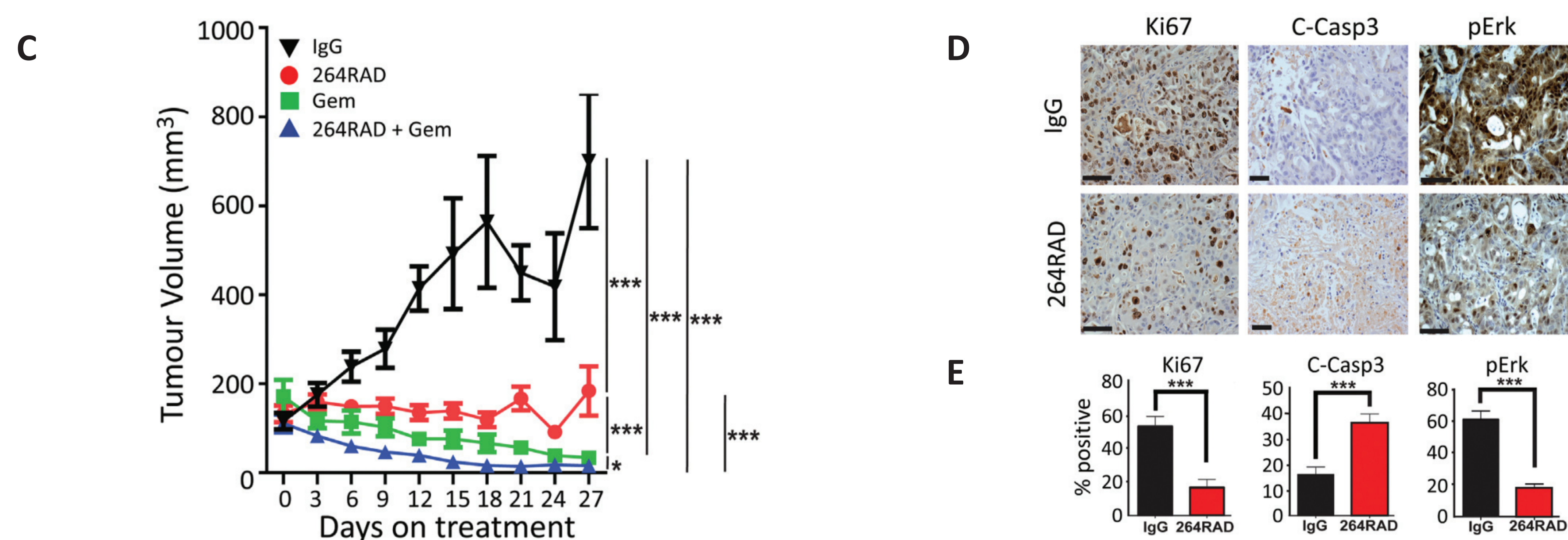
Key Data

Therapy with the αvβ6-blocking 264RAD antibody significantly improves survival in immunocompetent transgenic mice bearing αvβ6-expressing PDAC tumours



Treatment of PDAC-bearing KDC mice with 264RAD and immunohistochemical analysis. (A) Representative immunohistochemical analysis of αvβ6 expression in normal, PanIN, and PDAC from PdxCre+KRasLSL-G12D/+Dusp6-/- (KDC) mice. (B) The 264RAD-treated mice showed significantly increased overall survival in comparison with isotype control treated animals (log-rank test p = 0.028; HR: 4.92; 95% CI: 1.04–23.28)

264RAD antibody therapy reduces the growth of pancreatic human xenograft tumours



Treatment of mice bearing 100 mm³ CFPac1/PS1 subcutaneous tumours with 264RAD demonstrated significantly reduced tumour growth, compared with isotype control (p ≤ 0.0001)

IP Status & Publication(s)

Intellectual Property

Patent Number

US 9650416 B2 (2017.05.16)
EP 3615563 B1 (2020.09.23)

Patent Family

PCT, US, EP, JP, CA
PCT, KR, US, EP, JP, CN, CA, AU

Publication(s)

- Marshall, J. F. et al. (2019). The integrin αvβ6 drives pancreatic cancer through diverse mechanisms and represents an effective target for therapy. *The Journal of Pathology*, 249(3), 332–342.