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mRNA anticancer Vaccines

breakthrough approach in cancer treatment

tTROP2, FGFR2c

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mRNA vaccines in oncology - current status

- Several products at early or clinical exploratory stages
- Moderna, Biontech and Curevac having almost 70% of oncological vaccines in early pipeline
- Two targeting approaches:
  Multiply tumor associated antigens or sinle specific antigen
- Most indications in immunosensitive tumors: melanoma, NSCLC, glioblastoma

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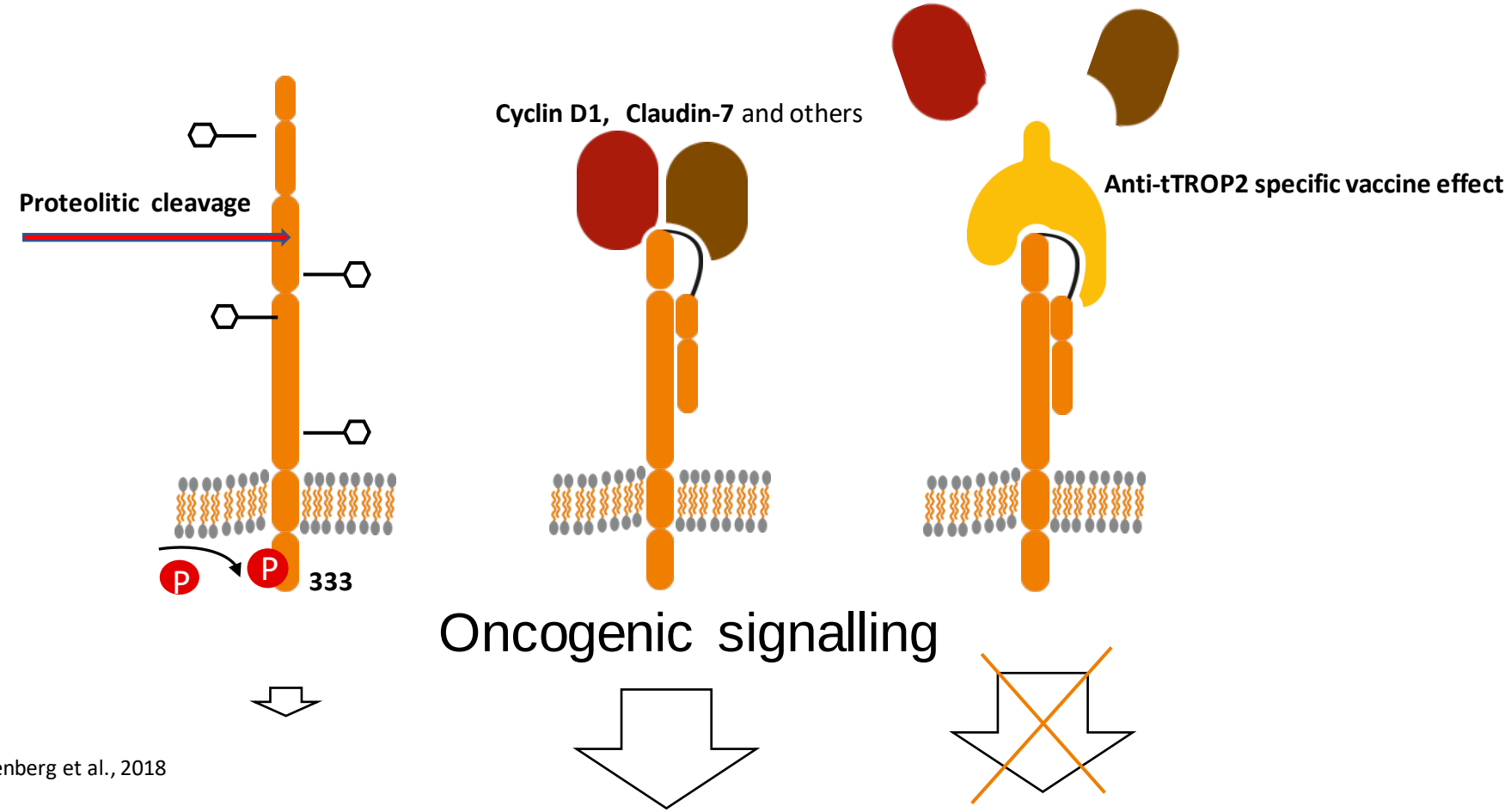
TROP2 and tTROP2 - small difference with huge biological impact



Based partly on Goldenberg et al., 2018

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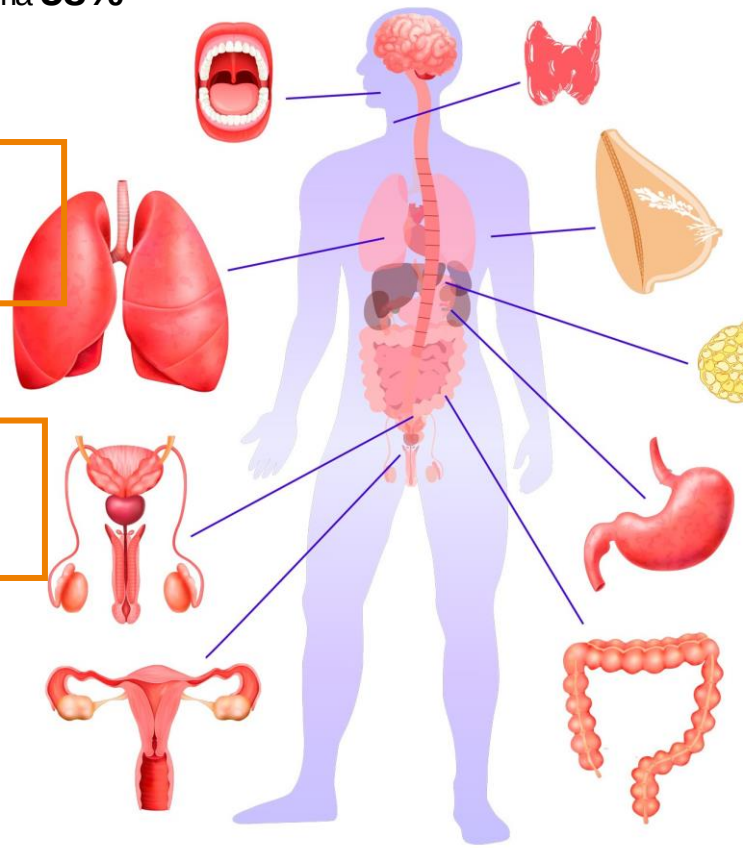
tTROP2 in solid tumors

Oral squamous cell carcinoma **58%**

NSCLC adenocarcinoma **64%**
NSCLC squamous **75%**

Urothelial cancers **80%**
Prostate cancer **71%**

Endometrial cancers **72%**
Cervical cancer **89%**



83% Papillary thyroid carcinoma

80% of breast cancers
88% of TNBCs

55% of pancreatic cancers

56% of gastric carcinoma

68% of colon cancer

Liao et al., 2020

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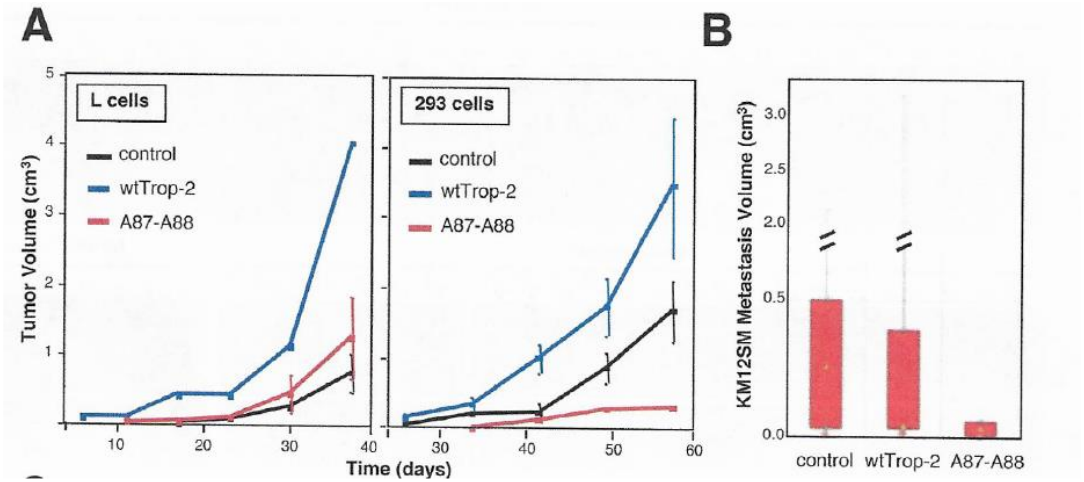
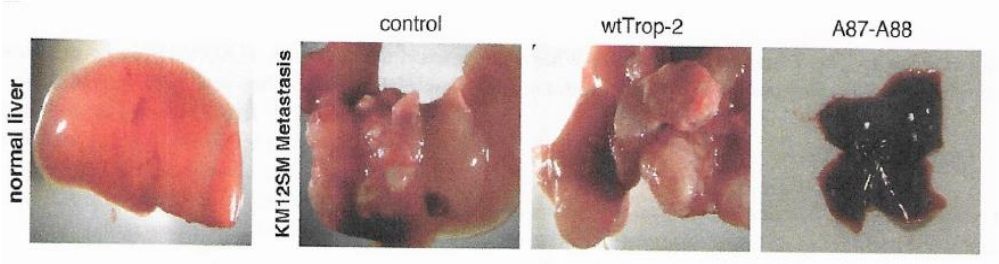
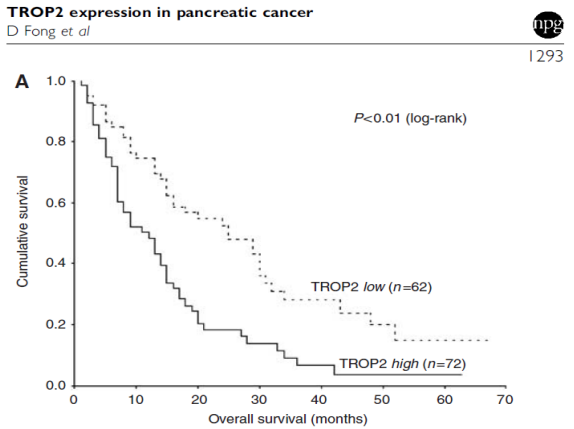
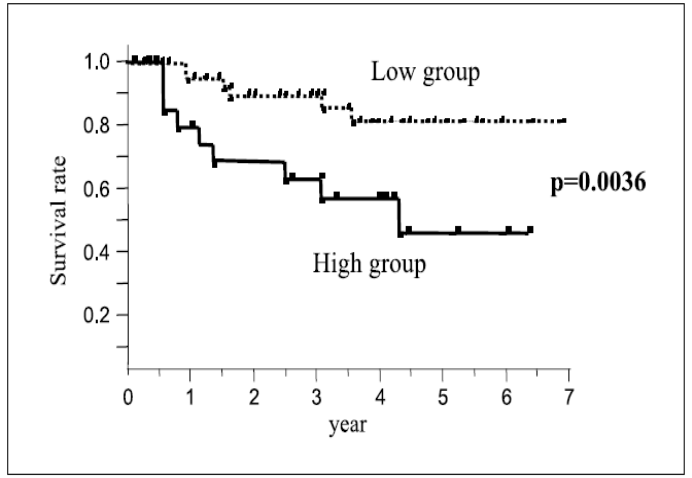
tTROP2 targets in solid tumors evidence





Trerotola et al., 2021





Fong et al., 2008; Ohmachi et al., 2006

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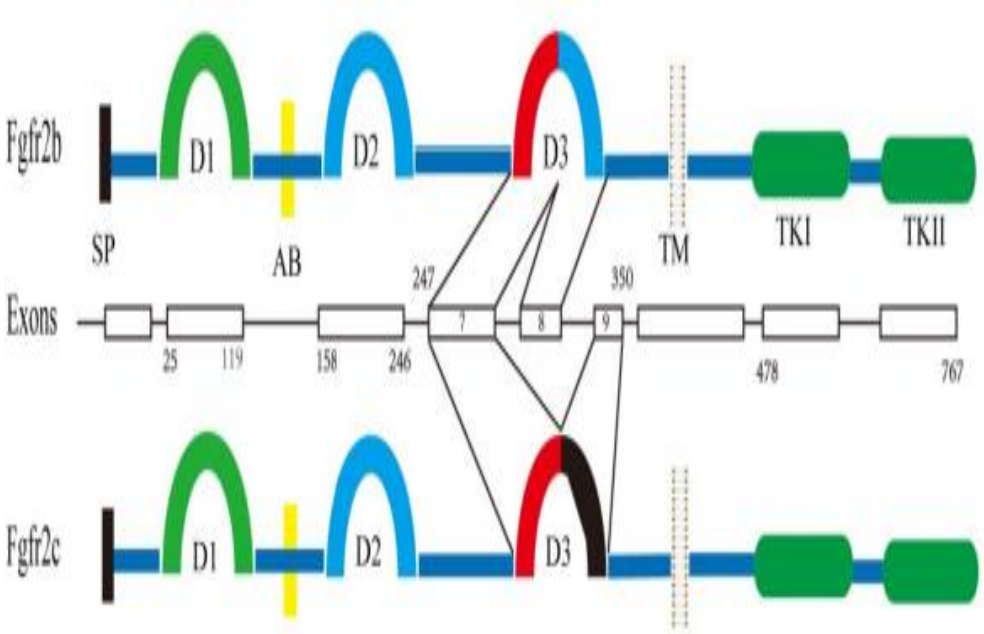
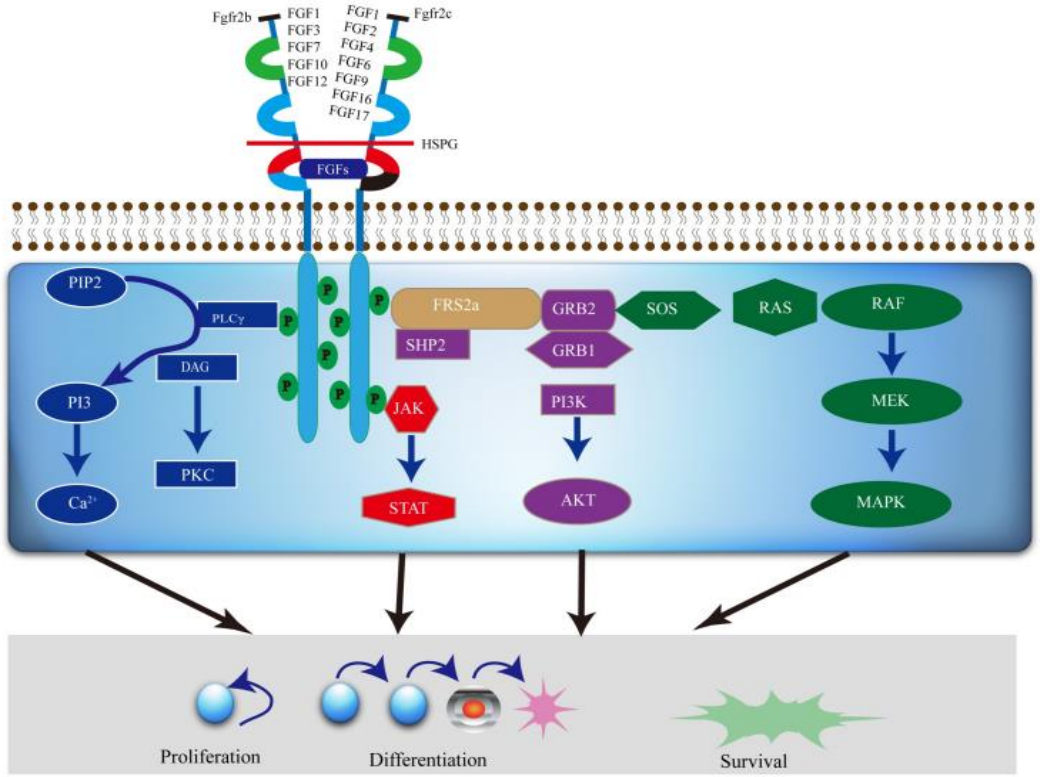
FGFR2c biology





FGFR2c is the result of alternative splicing

Lei et al., 2021

Oncogenic signalling
EMT (pathogenic type)
invasiveness

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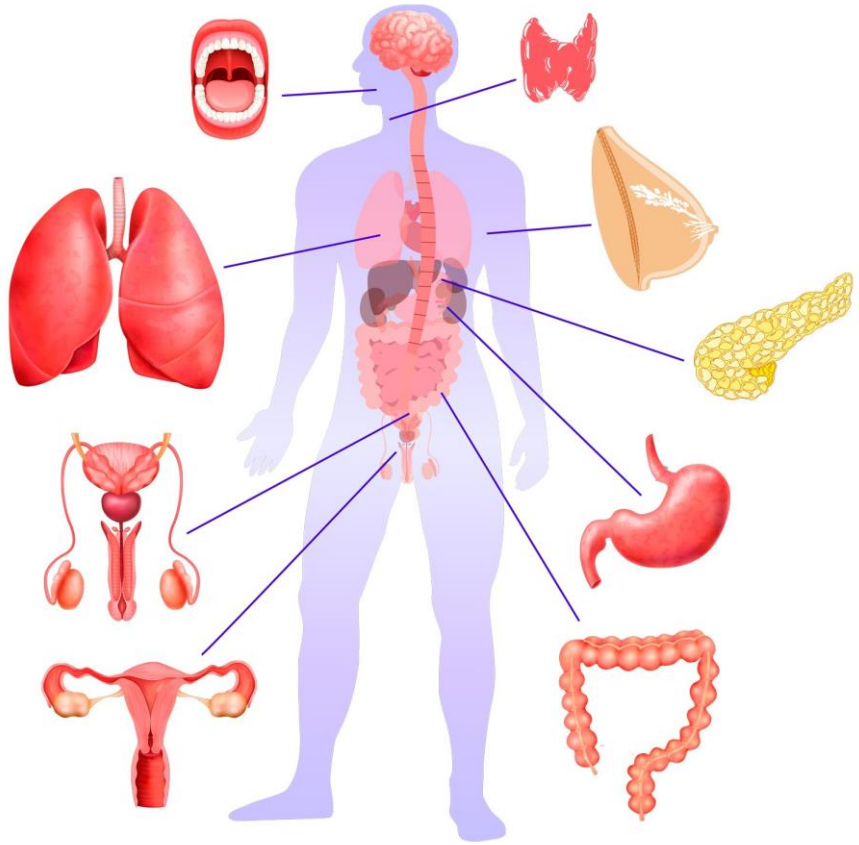
FGFR2c in solid tumors

Prostate and bladder cancer
(overexpression not precisely determined)

Endometrial cancer
(>40% overexpression)



Pancreatic cancer
(>70% overexpression)

Sengal et al., 2020; Fagonee et al., 2020, Ishiwata aet al., 2021

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Celon mRNA vaccines in oncology:

CHALLENGES	OPPORTUNITIES
▪ New delivery, not yet used at Celon (NLP licence/technology)	▪ Emerging (hot) technology with huge market potential for partnering
▪ Adjuvant selection	▪ Entering novel (difficult to target molecular targets)
▪ Off-targeting risk	▪ Better safety/efficacy profile
	▪ Platform technology with ease-to-modife targets

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Dziękuję!