

Biomarker testing and horizon scanning helps plan future treatments for patients

The recent pan-cancer NTRK inhibitor approval placed molecularly targeted therapies and biomarker testing back in the spotlight. Horizon scanning for approaching approvals is helpful in planning future treatments and ensuring the appropriate biomarker testing is in place.

- The **RET inhibitor** selpercatinib is FDA approved for NSCLC and thyroid cancers harbouring RET fusions (UK NICE assessment due June 2021). RET fusions are found at low prevalence in many solid tumours, and basket studies are in progress.
- The **FGFR inhibitors** pemigatinib and erdafitinib are FDA approved for cholangiocarcinoma and bladder cancer respectively (UK NICE assessment to be confirmed). Responses to inhibition of the FGFR axis have been reported in other tumour types harbouring FGFR fusions and basket studies are on-going.
- The **KRAS G12C inhibitor** AMG 510 generated interest in early clinical development, showing activity against a target previously thought be to undruggable. More recent clinical data have been a little disappointing but still one to watch, with on-going studies focussed on NSCLC and colorectal cancer alongside basket studies.
- Tumours harbouring **BRAF V600 mutations** continue to generate interest, with vemurafenib (a BRAF inhibitor) showing activity against 13 different tumour types in a recent basket study.

- The **IDH1 inhibitor** ivosidenib is FDA approved for the treatment of acute myeloid leukaemia, and has shown promise in cholangiocarcinoma with phase III trials on-going. Clinical studies are at an early stage for IDH-mutant CNS tumours.
- The **AKT inhibitors** capivasertib and ipatasertib have shown promise in AKT E17 mutant breast cancer and PTEN deficient prostate cancer respectively. Studies in other tumour types are on-going.

Prevalence by cancer type: emerging therapeutic biomarkers

