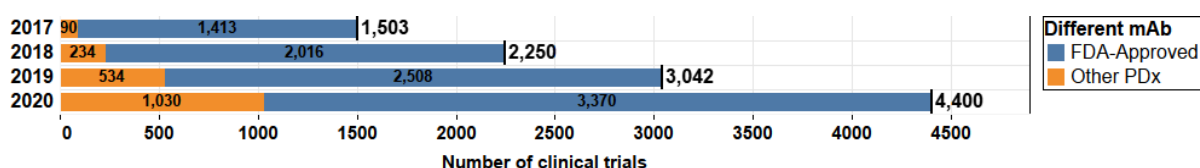

Supplementary information

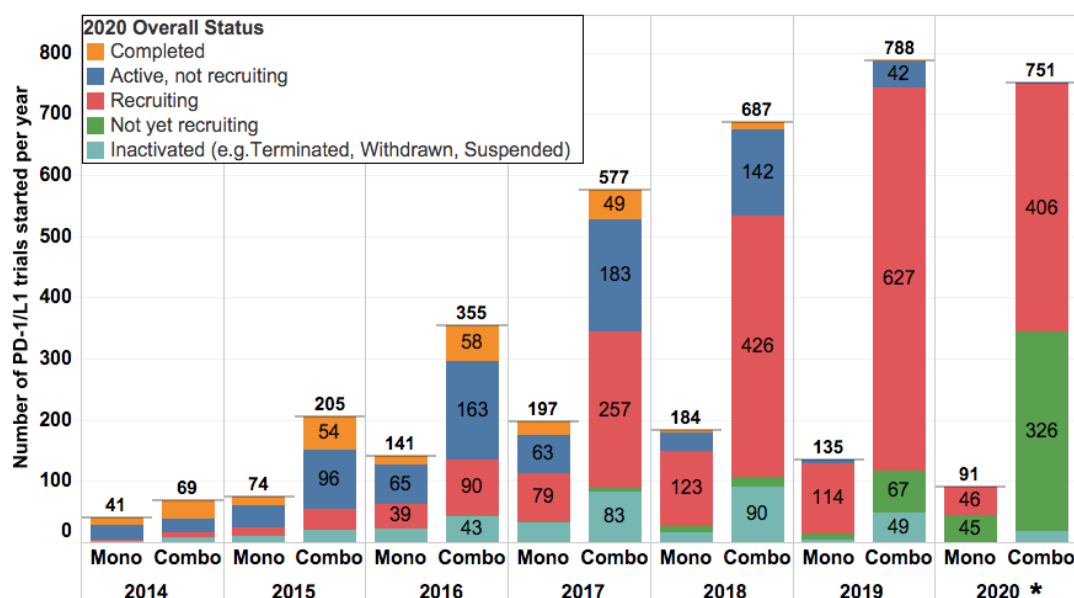
Combinations take centre stage in PD1/PDL1 inhibitor clinical trials

In the format provided by the authors

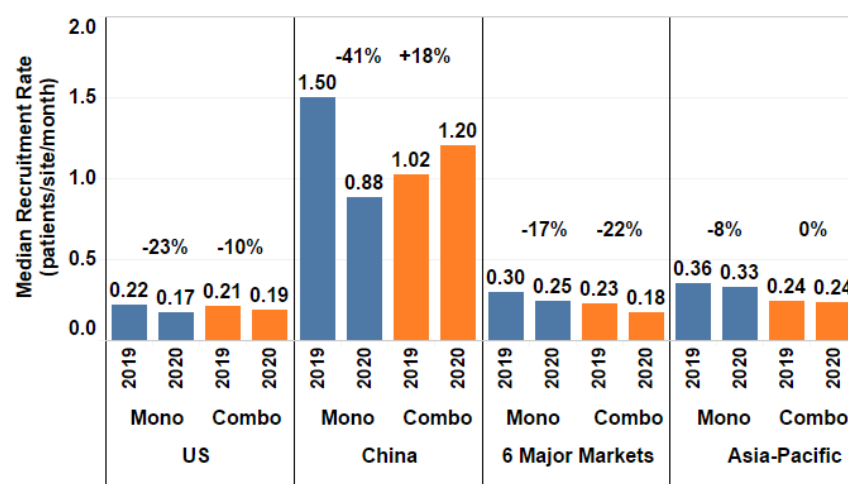
Supplementary Box 1 | Methods: The clinical trial information was collected in September 2020 from Clinicaltrials.gov. The classification of combination trial type and the identification of combination targets were based on CRI IO Analytics. The clinical trial recruitment information was collected from IQVIA internal database that tracks the real-time status of clinical trials managed by IQVIA. This patient recruitment analysis included information from 890 unique clinical trial sites from 66 clinical trials in 2020 and 690 unique clinical trials sites from 55 trials in 2019. These data only reflect a small fraction of the 4,400 anti-PD1/PDL1 clinical trials, and the results are therefore limited in reflecting the real actual patient recruitment rate of all ongoing PD1/PDL1 trials.



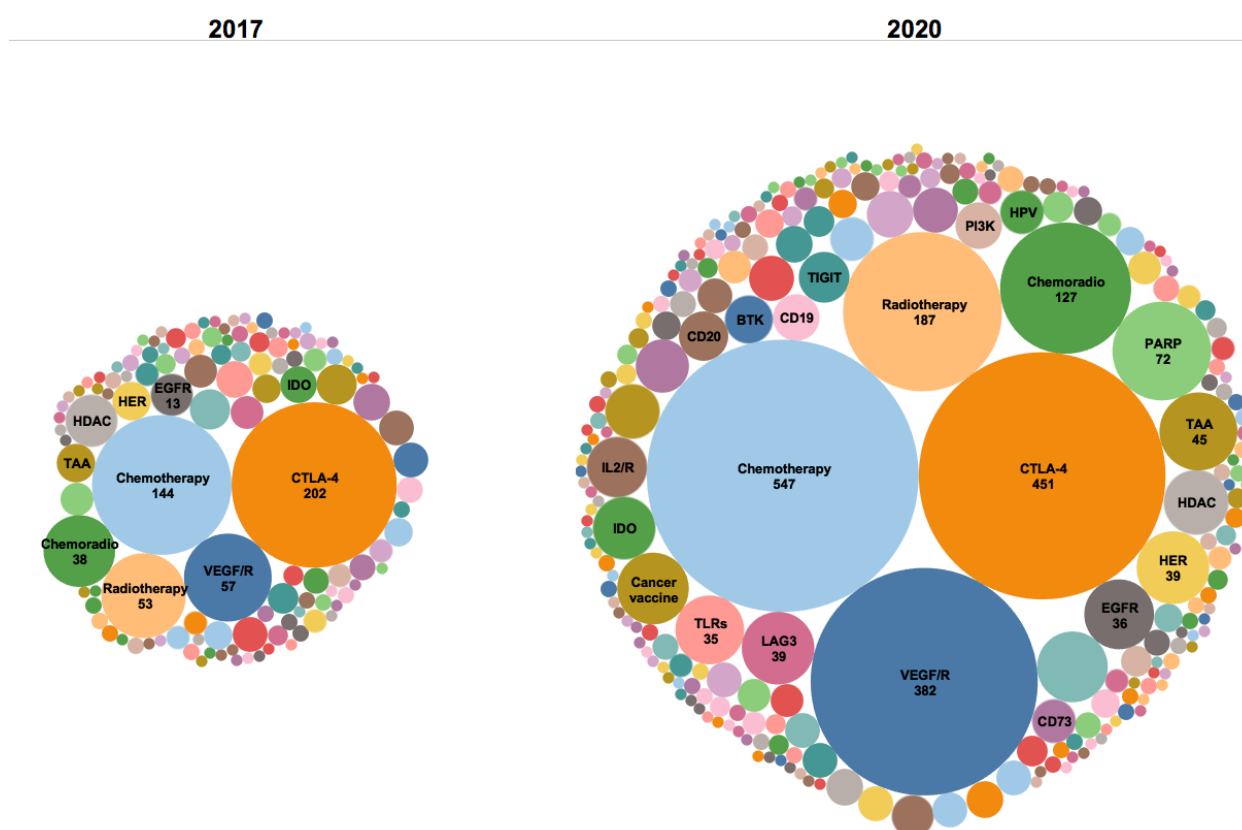
Supplementary Figure 1. The growth of landscape of PD1/L1 mAb clinical trials from 2017 to 2020. 4,400 clinical trials are in the current landscape as of September 2020, nearly tripling since in September 2017. FDA-approved mAbs include pembrolizumab, nivolumab, durvalumab, atezolizumab, avelumab, and cemiplimab. Other PDx include mAbs approved by regulatory agencies other than the FDA such as the EMA as well as those in clinical development and not yet approved.



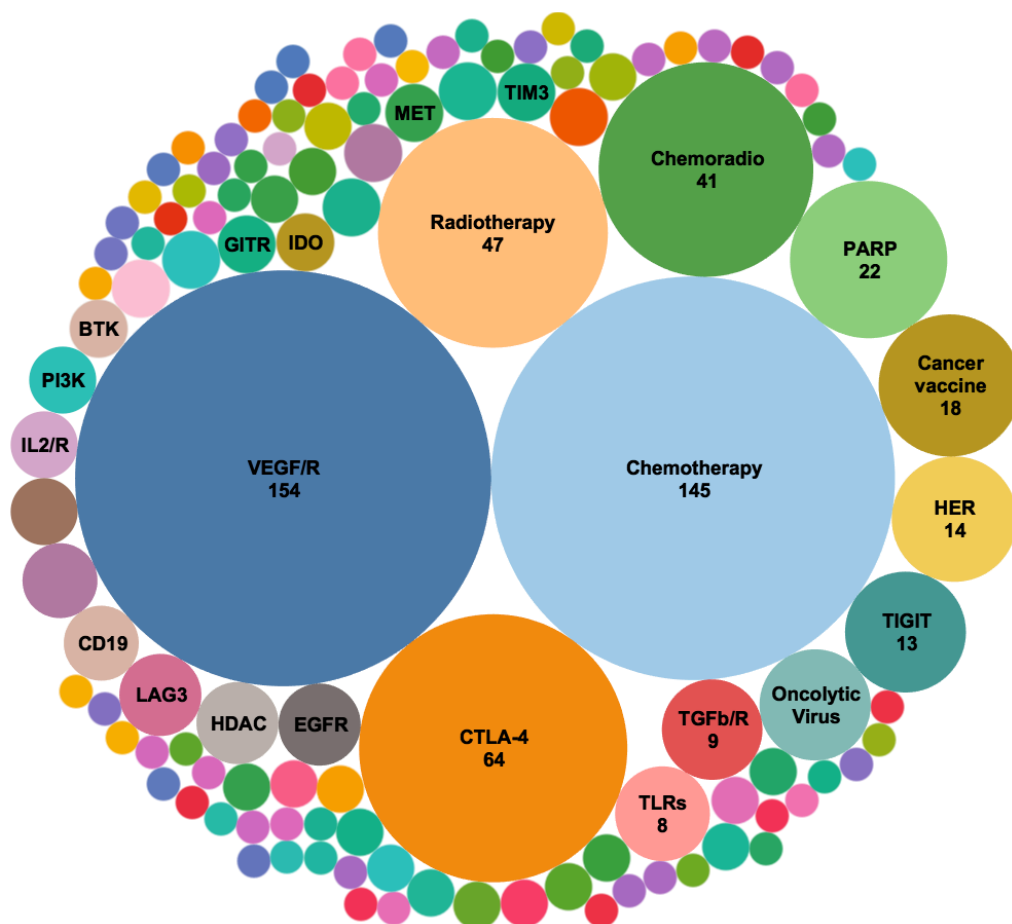
Supplementary Figure 2. Anti-PD1/PDL1 monotherapy and combination trials started from 2014 to 2020 (*only data from the first 3 quarters of 2020 were used to generate the analysis in the chart above.) The majority of trials started in past 4 years remain in recruitment phase, where the most recent trials have not started recruitment.



Supplementary Figure 3. Median patient recruitment rate in different countries or regions in 2019 compared to 2020 with changes in percentage between the years. Six major markets are France, Germany, Italy, Japan, Spain and United Kingdom. The Asia-Pacific (APAC) area includes Australia, Hong Kong, South Korea, New Zealand, Taiwan, and Thailand, excluding China and Japan. Mono and Combo denote monotherapy and combination therapy trials respectively.



Supplementary Figure 4. Target landscapes of combination trials in 2020 and 2017. The number of combination trials has more than tripled in the past three years (2,900 compared to 857), with an increase of 129 additional combination target groups from 124 target groups. Similar targets are grouped together to better identify trends in year to year analyses.



Supplementary Figure 5. Analysis of new combination trials (724 trials) starting in the year 2020*. When trials targeting VEGF and VEGFR were pooled together, this class of targets is the largest one tested in PD1/L1 combination trials opened in the past year, exceeding both chemotherapy and CTLA-4 combination trials. Immunomodulator targets represent many of the emerging targets. *Only first 3 quarters of 2020 are included in the analysis.