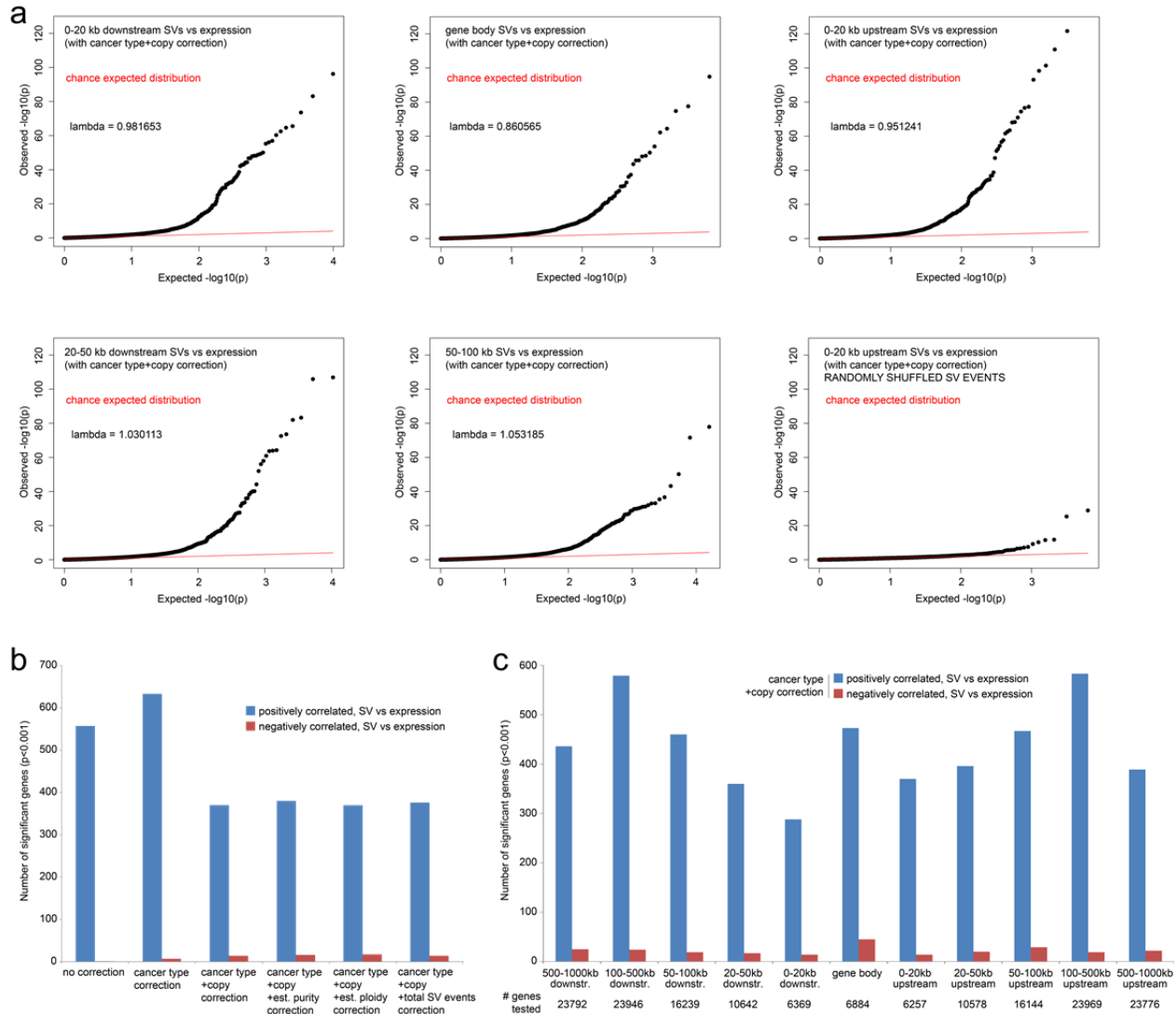


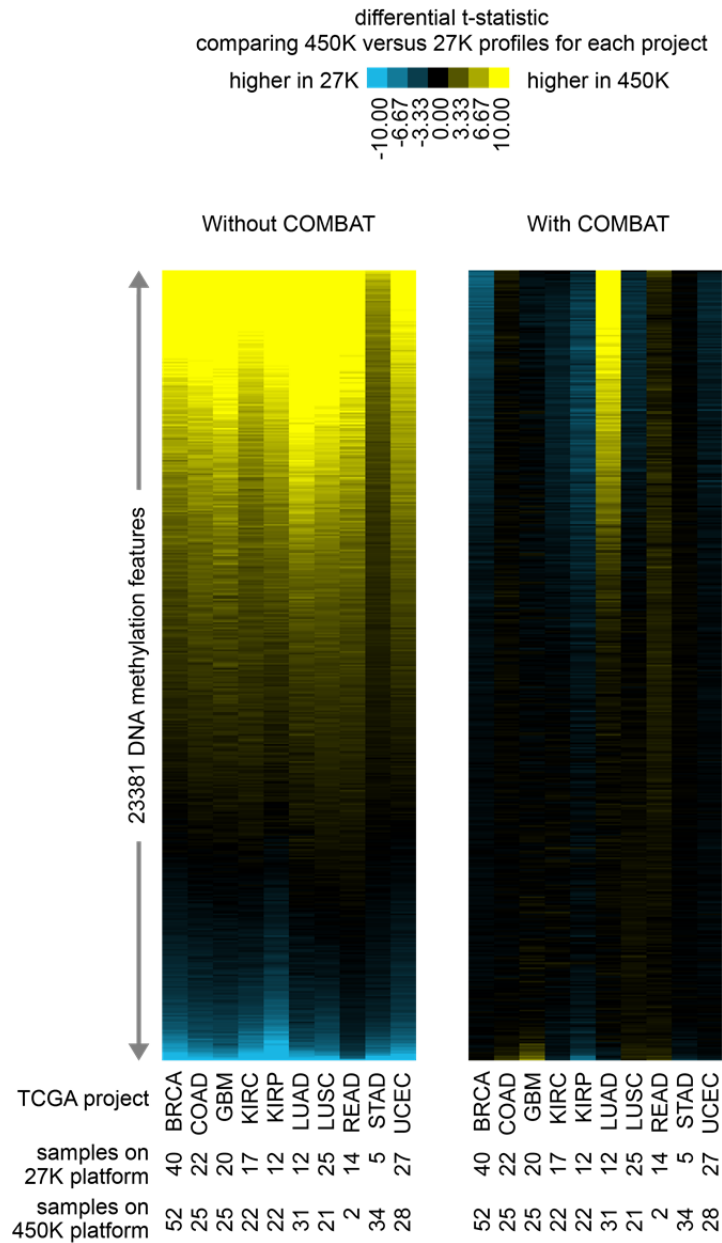
Supplementary Information

Zhang et al. "High-coverage whole-genome analysis of 1220 cancers reveals hundreds of genes deregulated by rearrangement-mediated cis-regulatory alterations"



**Supplementary Figure 1, related to Figure 1. Additional analyses involving the identifications of SVs associated with altered expression of nearby genes. (a)** QQ plots of the linear regression p-values from the SV events versus expression correlations (correcting for both cancer type and copy number), for SV breakpoints falling within each of the indicated regions surrounding the gene. The bottom right QQ plot represents results from the 0-20kb upstream SV events being randomly permuted relative to the expression profiles. R code for generating q-q plots publicly available from Dr. Stephen Turner (<http://www.gettinggeneticsdone.com/2010/07/qq-plots-of-p-values-in-r-using-base.html>). Lamda values represent  $[\text{median of } p\text{-values}]/0.456$ , intended as a measure of the observed versus expected median (the concept being borrowed from Genome-Wide Association Studies and applied here to the differential expression analyses). **(b)** Numbers of significant genes ( $p < 0.001$  and  $\text{FDR} < 4\%$ , linear regression model), showing correlation between expression and associated SV events (for breakpoints occurring 0-20kb upstream of the gene). Linear regression models represented evaluated significant associations (1) without corrections for other factors,

(2) when correcting for cancer type, (3) when correcting for both cancer type and gene copy number, (4) when correcting for cancer type and gene copy number and estimated tumor purity, (5) when correcting for cancer type and gene copy number and estimated tumor ploidy, and (6) when correcting for cancer type and gene copy number and total number of sample-level gene-associated SV events (0-20kb upstream). **(c)** Numbers of significant genes showing correlation between expression and associated SV breakpoint event ( $p < 0.001$ , linear regression model incorporating both cancer type and gene copy number), for SV breakpoints occurring 500-1000kb downstream of the gene, 100-500kb downstream of the gene, 50-100kb downstream of the gene, 20-50kb downstream of the gene, 0-20kb downstream of the gene, within the gene body, 0-20kb upstream of the gene, 20-50kb upstream of the gene, 50-100kb upstream of the gene, 100-500kb upstream of the gene, and 500-1000kb upstream of the gene.



**Supplementary Figure 2, related to Figure 6. Comparison of batch effect-related differences in DNA methylation data, both before and after batch effect correction using Combat software.** DNA methylation profiles had been generated for 771 cases by The Cancer Genome Atlas using either the Illumina Infinium HumanMethylation450 (450K) or HumanMethylation27 (27K) BeadChips. To help correct for batch effects between methylation data platforms (450K versus 27K), we used the combat software. For each of 23381 DNA methylation features shared between both platforms, levels in sample profiles from 27K platform versus levels in sample profiles from 450K platform were compared using t-test within each of ten TCGA projects for which samples from both platforms were involved. The comparisons were done using both the batch-corrected dataset and the original dataset. Heat maps of the differential t-statistics for

each TCGA project are provided, for both the original dataset (left) and the combatted dataset (right), with features ranked according to average t-statistics for the original dataset. The results show that the widespread batch effects involving 450K versus 27K platform differences, as observed in the original dataset, are largely alleviated in the combatted dataset.

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## Integration of transcriptome and genome

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## Integration of epigenome and genome

Hiroyuki Aburatani<sup>272</sup>, **Benjamin P Berman**#<sup>273,274,275</sup>, Hans Binder<sup>276,277</sup>, **Benedikt Brors**#<sup>82,119,278</sup>, Huy Q Dinh<sup>273</sup>, Lars Feuerbach<sup>119</sup>, Shengjie Gao<sup>149</sup>, Ivo G Gut<sup>135,136</sup>, Simon C Heath<sup>135,136</sup>, Steve Hoffmann<sup>277,279,280,281</sup>, Charles D Imbusch<sup>119</sup>, Ekta Khurana<sup>117,118,130,131</sup>, Helene Kretzmer<sup>277,281</sup>, Peter W Laird<sup>282</sup>, Jose I Martin-Subero<sup>111,283</sup>, Genta Nagae<sup>272,284</sup>, **Christoph Plass**#<sup>285</sup>, Paz Polak<sup>3,4,6</sup>, Hui Shen<sup>286</sup>, Reiner Siebert<sup>262,761</sup>, Nasa Sinnott-Armstrong<sup>3,61</sup>, Miranda D Stobbe<sup>135,136</sup>, Qi Wang<sup>98</sup>, Dieter Weichenhan<sup>285</sup>, Sergei Yakneen<sup>8</sup> and Wanding Zhou<sup>286</sup>

## Patterns of structural variations, signatures, genomic correlations, retrotransposons, mobile elements

Kadir C Akdemir<sup>144</sup>, Eva G Alvarez<sup>287,288,289</sup>, Adrian Baez-Ortega<sup>290</sup>, **Rameen Beroukhim**#<sup>3,6,172</sup>, Paul C Boutros<sup>9,133,142,143</sup>, David D L Bowtell<sup>187,291</sup>, Benedikt Brors<sup>82,119,278</sup>, Kathleen H Burns<sup>292</sup>, **Peter J Campbell**#<sup>1,2</sup>, Kin Chan<sup>293</sup>, Ken Chen<sup>144</sup>, Isidro Cortés-Ciriano<sup>237,238,239</sup>, Ana Dueso-Barroso<sup>46</sup>, Andrew J Dunford<sup>3</sup>, Paul A Edwards<sup>294,295</sup>, Xavier Estivill<sup>296</sup>, Dariush Etemadmoghadam<sup>187,188</sup>, Lars Feuerbach<sup>119</sup>, J Lynn Fink<sup>105,185</sup>, Milana Frenkel-Morgenstern<sup>244</sup>, Dale W Garsed<sup>187,188</sup>, Mark Gerstein<sup>120,121,122,123</sup>, Dmitry A Gordenin<sup>297</sup>, David Haan<sup>11</sup>, James E Haber<sup>298</sup>, Julian M Hess<sup>3,75</sup>, Barbara Hutter<sup>80,81,82</sup>, Marcin Imielinski<sup>299,300</sup>, David TW Jones<sup>301,302</sup>, Young Seok Ju<sup>2,181</sup>, Marat D Kazanov<sup>303,304,305</sup>, Leszek J Klimczak<sup>306</sup>, Youngil Koh<sup>307,308</sup>, Jan O

Korbel<sup>7,8</sup>, Kiran Kumar<sup>3</sup>, Eunjung Alice Lee<sup>309</sup>, Jake June-Koo Lee<sup>238,259</sup>, Yilong Li<sup>2</sup>, Andy G Lynch<sup>294,295,310</sup>, Geoff Macintyre<sup>294</sup>, Florian Markowetz<sup>294,295</sup>, Iñigo Martincorena<sup>2</sup>, Alexander Martinez-Fundichely<sup>117,118,130</sup>, Matthew Meyerson<sup>3,6,49,177,253</sup>, Satoru Miyano<sup>87</sup>, Hidewaki Nakagawa<sup>48</sup>, Fabio CP Navarro<sup>122</sup>, Stephan Ossowski<sup>136,147,157</sup>, Peter J Park<sup>238,259</sup>, John V Pearson<sup>311,312</sup>, Montserrat Puiggròs<sup>105</sup>, Karsten Rippe<sup>84</sup>, Nicola D Roberts<sup>2</sup>, Steven A Roberts<sup>313</sup>, Bernardo Rodriguez-Martin<sup>287,288,289</sup>, Steven E Schumacher<sup>3,217</sup>, Ralph Scully<sup>314</sup>, Mark Shackleton<sup>188,218</sup>, Nikos Sidiropoulos<sup>113</sup>, Lina Sieverling<sup>119,180</sup>, Chip Stewart<sup>3</sup>, David Torrents<sup>105,111</sup>, Jose MC Tubio<sup>287,288,289</sup>, Izar Villasante<sup>105</sup>, Nicola Waddell<sup>311,312</sup>, Jeremiah A Wala<sup>3,6,49</sup>, Joachim Weischenfeldt<sup>8,113,114</sup>, Lixing Yang<sup>315</sup>, Xiaotong Yao<sup>299,316</sup>, Sung-Soo Yoon<sup>308</sup>, Jorge Zamora<sup>2,287,288,289</sup> and Cheng-Zhong Zhang<sup>3,6,49</sup>

## Mutation signatures and processes

Ludmil B Alexandrov<sup>2,317</sup>, Erik N Bergstrom<sup>318</sup>, Arnoud Boot<sup>267,319</sup>, Paul C Boutros<sup>9,133,142,143</sup>, Kin Chan<sup>293</sup>, Kyle Covington<sup>165</sup>, Akihiro Fujimoto<sup>48</sup>, Gad Getz<sup>3,4,5,6</sup>, Dmitry A Gordenin<sup>297</sup>, Nicholas J Haradhvala<sup>3,106</sup>, Mi Ni Huang<sup>267,319</sup>, S. M. Ashiqul Islam<sup>317</sup>, Marat D Kazanov<sup>303,304,305</sup>, Jaegil Kim<sup>3</sup>, Leszek J Klimczak<sup>306</sup>, Michael S Lawrence<sup>3,47,106</sup>, Iñigo Martincorena<sup>2</sup>, John R McPherson<sup>267,319</sup>, Sandro Morganella<sup>2</sup>, Ville Mustonen<sup>320,321,322</sup>, Hidewaki Nakagawa<sup>48</sup>, Avlin Wei Tian Ng<sup>323</sup>, Serena Nik-Zainal<sup>2,324,325,326</sup>, Paz Polak<sup>3,4,6</sup>, Stephenie D Prokopec<sup>9</sup>, Steven A Roberts<sup>313</sup>, **Steven G Rozen#**<sup>267,268,319</sup>, Radhakrishnan Sabarinathan<sup>183,190,214</sup>, Natalie Saini<sup>297</sup>, Tatsuhiro Shibata<sup>33,34</sup>, Yuichi Shiraishi<sup>87</sup>, **Michael Rudolf Stratton#**<sup>2</sup>, **Bin Tean Teh#**<sup>266,267,268,269,270</sup>, Ignacio Vázquez-García<sup>2,167,327,328</sup>, Yang Wu<sup>267,319</sup>, Fouad Youssif<sup>9</sup> and Willie Yu<sup>329</sup>

## Germline cancer genome

Ludmil B Alexandrov<sup>2,317</sup>, Eva G Alvarez<sup>287,288,289</sup>, Adrian Baez-Ortega<sup>290</sup>, Matthew H Bailey<sup>138,139</sup>, Mattia Bosio<sup>46,136,147</sup>, G Steven Bova<sup>330</sup>, Alvis Brazma<sup>7</sup>, Alicia L Bruzos<sup>287,288,289</sup>, Ivo Buchhalter<sup>52,53,54</sup>, Carlos D Bustamante<sup>60,61</sup>, Atul J Butte<sup>331</sup>, Andy Cafferkey<sup>7</sup>, Claudia Calabrese<sup>7,8</sup>, Peter J Campbell<sup>1,2</sup>, Stephen J Chanock<sup>332</sup>, Nilanjan Chatterjee<sup>333,334</sup>, Jieming Chen<sup>123,335</sup>, Francisco M De La Vega<sup>59,59,60,61,62</sup>, Olivier Delaneau<sup>336,337,338</sup>, German M Demidov<sup>136,147,339</sup>, Anthony DiBiase<sup>340</sup>, Li Ding<sup>138,139,146</sup>, Oliver Drechsel<sup>136,147</sup>, Lewis Jonathan Dursi<sup>9,65</sup>, Douglas F Easton<sup>341,342</sup>, Serap Erkek<sup>8</sup>, Georgia Escaramis<sup>147,343,344</sup>, **Xavier Estivill#**<sup>296</sup>, Erik Garrison<sup>2</sup>, Mark Gerstein<sup>120,121,122,123</sup>, Gad Getz<sup>3,4,5,6</sup>, Dmitry A Gordenin<sup>297</sup>, Nina Habermann<sup>8</sup>, Olivier Harismendy<sup>73</sup>, Eoghan Harrington<sup>345</sup>, Shuto Hayashi<sup>87</sup>, José María Heredia-Genestar<sup>346</sup>, Aliaksei Z Holik<sup>147</sup>, Xing Hua<sup>332</sup>, Kuan-lin Huang<sup>139,347</sup>, Seiya Imoto<sup>86,87</sup>, Sissel Juul<sup>345</sup>, Ekta Khurana<sup>117,118,130,131</sup>, Hyung-Lae Kim<sup>27</sup>, Youngwook Kim<sup>96,97</sup>, Leszek J Klimczak<sup>306</sup>, **Jan O Korbel#**<sup>7,8</sup>, Roelof Koster<sup>348</sup>, Sushant Kumar<sup>122,123</sup>, Ivica Letunic<sup>155</sup>, Yilong Li<sup>2</sup>, Tomas Marques-Bonet<sup>111,135,346,349</sup>, R Jay Mashl<sup>139,156</sup>, Simon Mayes<sup>350</sup>, Michael D McLellan<sup>138,139,146</sup>, Lisa Mirabello<sup>332</sup>, Francesc Muyas<sup>136,147,339</sup>, Hidewaki Nakagawa<sup>48</sup>, Arcadi Navarro<sup>111,135,346</sup>, Steven J Newhouse<sup>7</sup>, Stephan Ossowski<sup>136,147,157</sup>, Esa Pitkänen<sup>8</sup>, Aparna Prasad<sup>136</sup>, Raquel Rabionet<sup>136,147,351</sup>, Benjamin Raeder<sup>8</sup>, Tobias Rausch<sup>8</sup>, Steven A Roberts<sup>313</sup>, Bernardo Rodriguez-Martin<sup>287,288,289</sup>, Gunnar Rättsch<sup>90,93,94,107,108,109</sup>, Natalie Saini<sup>297</sup>, Matthias Schlesner<sup>52,110</sup>, Roland

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## Tumor subtypes and clinical translation

Fatima Al-Shahrour<sup>357</sup>, Gurnit Atwal<sup>9,10,358</sup>, Peter J Bailey<sup>236</sup>, **Andrew V Biankin#**<sup>359,360,361,362</sup>, Paul C Boutros<sup>9,133,142,143</sup>, Peter J Campbell<sup>1,2</sup>, David K Chang<sup>360,362</sup>, Susanna L Cooke<sup>362</sup>, Vikram Deshpande<sup>106</sup>, Bishoy M Faltas<sup>109</sup>, William C Faquin<sup>106</sup>, **Levi Garraway#**<sup>49</sup>, Gad Getz<sup>3,4,5,6</sup>, **Sean M Grimmond#**<sup>363</sup>, Syed Haider<sup>9</sup>, **Katherine A Hoadley#**<sup>247,248</sup>, Wei Jiao<sup>9</sup>, Vera B Kaiser<sup>364</sup>, Rosa Karlic<sup>365</sup>, Mamoru Kato<sup>366</sup>, Kirsten Kübler<sup>3,6,106</sup>, Alexander J Lazar<sup>367</sup>, Constance H Li<sup>9,133</sup>, David N Louis<sup>106</sup>, Adam Margolin<sup>368</sup>, Sancha Martin<sup>2,369</sup>, Hardeep K Nahal-Bose<sup>45</sup>, G Petur Nielsen<sup>106</sup>, Serena Nik-Zainal<sup>2,324,325,326</sup>, Larsson Omberg<sup>100</sup>, Christine P'ng<sup>9</sup>, Marc D Perry<sup>45,103</sup>, Paz Polak<sup>3,4,6</sup>, Esther Rheinbay<sup>3,6,106</sup>, Mark A Rubin<sup>131,194,210,211,212</sup>, Colin A Semple<sup>364</sup>, Dennis C Sgroi<sup>106</sup>, Tatsuhiro Shibata<sup>33,34</sup>, Reiner Siebert<sup>262,761</sup>, Jaclyn Smith<sup>368</sup>, **Lincoln D Stein#**<sup>9,10</sup>, Miranda D Stobbe<sup>135,136</sup>, Ren X Sun<sup>9</sup>, Kevin Thai<sup>45</sup>, Derek W Wright<sup>370,371</sup>, Chin-Lee Wu<sup>106</sup>, Ke Yuan<sup>294,369,372</sup> and Junjun Zhang<sup>45</sup>

## Evolution and heterogeneity

David J Adams<sup>2</sup>, Pavana Anur<sup>373</sup>, Rameen Beroukhim<sup>3,6,172</sup>, Paul C Boutros<sup>9,133,142,143</sup>, David D L Bowtell<sup>187,291</sup>, Peter J Campbell<sup>1,2</sup>, Shaolong Cao<sup>148</sup>, Elizabeth L Christie<sup>187</sup>, Marek Cmero<sup>374,375,376</sup>, Yupeng Cun<sup>377</sup>, Kevin J Dawson<sup>2</sup>, Jonas Demeulemeester<sup>63,64</sup>, Stefan C Dentre<sup>2,64,354</sup>, Amit G Deshwar<sup>378</sup>, Nilgun Donmez<sup>151,159</sup>, Ruben M Drews<sup>294</sup>, Roland Eils<sup>52,54,66,67</sup>, Yu Fan<sup>148</sup>, Matthew W Fittall<sup>64</sup>, Dale W Garsed<sup>187,188</sup>, Moritz Gerstung<sup>7,8</sup>, Gad Getz<sup>3,4,5,6</sup>, Santiago Gonzalez<sup>7,8</sup>, Gavin Ha<sup>3</sup>, Kerstin Haase<sup>64</sup>, Marcin Imielinski<sup>299,300</sup>, Lara Jerman<sup>8,379</sup>, Yuan Ji<sup>380,381</sup>, Clemency Jolly<sup>64</sup>, Kortine Kleinheinz<sup>52,54</sup>, Juhee Lee<sup>382</sup>, Henry Lee-Six<sup>2</sup>, Ignaty Leshchiner<sup>3</sup>, Dimitri Livitz<sup>3</sup>, Geoff Macintyre<sup>294</sup>, Salem Malikic<sup>151,159</sup>, Florian Markowetz<sup>294,295</sup>, Iñigo Martincorena<sup>2</sup>, Thomas J Mitchell<sup>2,295,383</sup>, Quaid D Morris<sup>358,384</sup>, Ville Mustonen<sup>320,321,322</sup>, Layla Oesper<sup>385</sup>, Martin Peifer<sup>377</sup>, Myron Peto<sup>386</sup>, Benjamin J Raphael<sup>120</sup>, Daniel Rosebrock<sup>3</sup>, Yulia Rubanova<sup>160,358</sup>, S Cenk Sahinalp<sup>151,158,159</sup>, Adriana Salcedo<sup>9</sup>, Matthias Schlesner<sup>52,110</sup>, Steven E Schumacher<sup>3,217</sup>, Subhajit Sengupta<sup>387</sup>, Ruian Shi<sup>384</sup>, Seung Jun Shin<sup>264</sup>, **Paul T Spellman#**<sup>388</sup>, Oliver Spiro<sup>3</sup>, Lincoln D Stein<sup>9,10</sup>, Maxime Tarabichi<sup>2,64</sup>, **Peter Van Loo#**<sup>63,64</sup>, Shankar Vembu<sup>384,389</sup>, Ignacio Vázquez-García<sup>2,167,327,328</sup>, Wenyi Wang<sup>148</sup>, **David C Wedge#**<sup>2,354,355</sup>, David A Wheeler<sup>164,165</sup>, Jeffrey A Wintersinger<sup>192,358,390</sup>, Tsun-Po Yang<sup>377</sup>, Xiaotong Yao<sup>299,316</sup>, Kaixian Yu<sup>391</sup>, Ke Yuan<sup>294,369,372</sup> and Hongtu Zhu<sup>392,393</sup>

## Exploratory: portals, visualization and software infrastructure

Fatima Al-Shahrour<sup>357</sup>, Elisabet Barrera<sup>7</sup>, Wojciech Bazant<sup>7</sup>, Alvis Brazma<sup>7</sup>, Isidro Cortés-Ciriano<sup>237,238,239</sup>, Brian Craft<sup>240</sup>, David Craft<sup>3</sup>, Vincent Ferretti<sup>45,69</sup>, Nuno A Fonseca<sup>7,70</sup>, Anja Füllgrabe<sup>7</sup>, Mary J Goldman<sup>240</sup>, **David Haussler#**<sup>240,394</sup>, Wolfgang Huber<sup>8</sup>, Maria Keays<sup>7</sup>, Alfonso Muñoz<sup>7</sup>, Brian D O'Connor<sup>45,50</sup>, Irene Papatheodorou<sup>7</sup>, Robert Petryszak<sup>7</sup>, Elena Piñeiro-Yáñez<sup>357</sup>, Alfonso Valencia<sup>105,111</sup>, **Miguel Vazquez#**<sup>105,112</sup>, John N Weinstein<sup>395,396</sup>, Qian Xiang<sup>116</sup>, Junjun Zhang<sup>45</sup> and **Jingchun Zhu#**<sup>240</sup>

## Exploratory: mitochondrial variants and HLA/immunogenicity

Peter J Campbell<sup>1,2</sup>, Yiwen Chen<sup>148</sup>, Chad J Creighton<sup>241</sup>, Li Ding<sup>138,139,146</sup>, Akihiro Fujimoto<sup>48</sup>, Masashi Fujita<sup>48</sup>, Gad Getz<sup>3,4,5,6</sup>, Leng Han<sup>231</sup>, Takanori Hasegawa<sup>87</sup>, Shuto Hayashi<sup>87</sup>, Seiya Imoto<sup>86,87</sup>, Young Seok Ju<sup>2,181</sup>, Hyung-Lae Kim<sup>27</sup>, Youngwook Kim<sup>96,97</sup>, Youngil Koh<sup>307,308</sup>, Mitsuhiro Komura<sup>87</sup>, Jun Li<sup>148</sup>, **Han Liang#**<sup>397</sup>, Iñigo Martincorena<sup>2</sup>, Satoru Miyano<sup>87</sup>, Shinichi Mizuno<sup>398</sup>, **Hidewaki Nakagawa#**<sup>48</sup>, Keunchil Park<sup>206,207</sup>, Eigo Shimizu<sup>87</sup>, Yumeng Wang<sup>148,399</sup>, John N Weinstein<sup>395,396</sup>, Yanxun Xu<sup>400</sup>, Rui Yamaguchi<sup>87</sup>, Fan Yang<sup>384</sup>, Yang Yang<sup>231</sup>, Christopher J Yoon<sup>181</sup>, Sung-Soo Yoon<sup>308</sup>, Yuan Yuan<sup>148</sup>, Fan Zhang<sup>246</sup> and Zemin Zhang<sup>246,271</sup>

## Exploratory: pathogens

Malik Alawi<sup>401,402</sup>, Ivan Borozan<sup>9</sup>, Daniel S Brewer<sup>403,404</sup>, Colin S Cooper<sup>404,405,406</sup>, Nikita Desai<sup>45</sup>, **Roland Eils#**<sup>52,54,66,67</sup>, Vincent Ferretti<sup>45,69</sup>, Adam Grundhoff<sup>401,407</sup>, Murat Iskar<sup>408</sup>, Kortine Kleinheinz<sup>52,54</sup>, Peter Lichter<sup>408</sup>, **Hidewaki Nakagawa#**<sup>48</sup>, Akinyemi I Ojesina<sup>255,256,257</sup>, Chandra Sekhar Pedamallu<sup>3,6,172</sup>, Matthias Schlesner<sup>52,110</sup>, Xiaoping Su<sup>144</sup> and Marc Zapatka<sup>408</sup>

## Tumor Specific Providers – Australia (Ovarian cancer)

Kathryn Alsop<sup>409,410</sup>, Australian Ovarian Cancer Study Group<sup>187,311,411</sup>, **David D L Bowtell#**<sup>187,291</sup>, Timothy JC Bruxner<sup>185</sup>, Angelika N Christ<sup>185</sup>, Elizabeth L Christie<sup>187</sup>, Stephen M Cordner<sup>412</sup>, Prue A Cowin<sup>187</sup>, Ronny Drapkin<sup>413</sup>, Dariush Etemadmoghadam<sup>187,188</sup>, Sian Fereday<sup>414</sup>, Dale W Garsed<sup>187,188</sup>, Joshy George<sup>170</sup>, Sean M Grimmond<sup>363</sup>, Anne Hamilton<sup>187</sup>, Oliver Holmes<sup>311,312</sup>, Jillian A Hung<sup>415,416</sup>, Karin S Kassahn<sup>185,417</sup>, Stephen H Kazakoff<sup>311,312</sup>, Catherine J Kennedy<sup>418,419</sup>, Conrad R Leonard<sup>311,312</sup>, Linda Mileshkin<sup>187</sup>, David K Miller<sup>185,360,420</sup>, Gisela Mir Arnau<sup>187</sup>, Chris Mitchell<sup>187</sup>, Felicity Newell<sup>311,312</sup>, Katia Nones<sup>311,312</sup>, Ann-Marie Patch<sup>311,312</sup>, John V Pearson<sup>311,312</sup>, Michael C Quinn<sup>311,312</sup>, Mark Shackleton<sup>188,218</sup>, Darrin F Taylor<sup>185</sup>, Heather Thorne<sup>187</sup>, Nadia Traficante<sup>187</sup>, Ravikiran Vedururu<sup>187</sup>, Nick M Waddell<sup>312</sup>, Nicola Waddell<sup>311,312</sup>, Paul M Waring<sup>253</sup>, Scott Wood<sup>311,312</sup>, Qinying Xu<sup>311,312</sup> and Anna deFazio<sup>421,422,423</sup>

## Tumor Specific Providers – Australia (Pancreatic cancer)

Matthew J Anderson<sup>185</sup>, Davide Antonello<sup>424</sup>, Andrew P Barbour<sup>425,426</sup>, Claudio Bassi<sup>424</sup>, Samantha Bersani<sup>427</sup>, **Andrew V Biankin**<sup>359,360,361,362</sup>, Timothy JC Bruxner<sup>185</sup>, Ivana Cataldo<sup>427,428</sup>, David K Chang<sup>360,362</sup>, Lorraine A Chantrill<sup>360</sup>, Yoke-Eng Chiew<sup>421</sup>, Angela Chou<sup>360,429</sup>, Angelika N Christ<sup>185</sup>, Sara Cingarlini<sup>37</sup>, Nicole Cloonan<sup>430</sup>, Vincenzo Corbo<sup>428,431</sup>,<sup>432</sup>, Fraser R Duthie<sup>433,434</sup>, J Lynn Fink<sup>105,185</sup>, Anthony J Gill<sup>360,435</sup>, Janet S Graham<sup>362,436</sup>, **Sean M Grimmond**<sup>363</sup>, Ivon Harliwong<sup>185</sup>, Oliver Holmes<sup>311,312</sup>, Nigel B Jamieson<sup>361,362,437</sup>, Amber L Johns<sup>360,420</sup>, Karin S Kassahn<sup>185,417</sup>, Stephen H Kazakoff<sup>311,312</sup>, James G Kench<sup>360,435,438</sup>, Luca Landoni<sup>424</sup>, Rita T Lawlor<sup>428</sup>, Conrad R Leonard<sup>311,312</sup>, Andrea Mafficini<sup>428</sup>, Neil D Merrett<sup>424,439</sup>, David K Miller<sup>185,360,420</sup>, Marco Miotto<sup>424</sup>, Elizabeth A Musgrove<sup>362</sup>, Adnan M Nagrial<sup>360</sup>, Felicity Newell<sup>311,312</sup>, Katia Nones<sup>311,312</sup>, Karin A Oien<sup>253,440</sup>, Marina Pajic<sup>360</sup>, Ann-Marie Patch<sup>311,312</sup>, John V Pearson<sup>311,312</sup>, Mark Pinese<sup>360</sup>, Andreia V Pinho<sup>360</sup>, Michael C Quinn<sup>311,312</sup>, Alan J Robertson<sup>185</sup>, Ilse Roman<sup>360</sup>, Borislav C Rusev<sup>428</sup>, Jaswinder S Samra<sup>424,435</sup>, Maria Scardoni<sup>427</sup>, Christopher J Scarlett<sup>360,441</sup>, Aldo Scarpa<sup>428</sup>, Elisabetta Sereni<sup>424</sup>, Katarzyna O Sikora<sup>428</sup>, Michele Simbolo<sup>431</sup>, Morgan L Taschuk<sup>45</sup>, Christopher W Toon<sup>360</sup>, Giampaolo Tortora<sup>37,38</sup>, Caterina Vicentini<sup>428</sup>, Nick M Waddell<sup>312</sup>, Nicola Waddell<sup>311,312</sup>, Scott Wood<sup>311,312</sup>, Jianmin Wu<sup>360</sup>, Qinying Xu<sup>311,312</sup> and Nikolajs Zeps<sup>442</sup>

## Tumor Specific Providers – Australia (Skin cancer)

Lauri A Aaltonen<sup>443</sup>, Andreas Behren<sup>444</sup>, Hazel Burke<sup>445</sup>, Jonathan Cebon<sup>444</sup>, Rebecca A Dagg<sup>446</sup>, Ricardo De Paoli-Iseppi<sup>447</sup>, Ken Dutton-Regester<sup>311</sup>, Matthew A Field<sup>448</sup>, Anna Fitzgerald<sup>449</sup>, Sean M Grimmond<sup>363</sup>, **Nicholas K Hayward**<sup>311,445</sup>, Peter Hersey<sup>445</sup>, Oliver Holmes<sup>311,312</sup>, Valerie Jakrot<sup>445</sup>, Peter A Johansson<sup>311</sup>, Hojabr Kakavand<sup>447</sup>, Stephen H Kazakoff<sup>311,312</sup>, Richard F Kefford<sup>450</sup>, Loretta MS Lau<sup>451</sup>, Conrad R Leonard<sup>311,312</sup>, Georgina V Long<sup>452</sup>, **Graham J Mann**<sup>453,454</sup>, Felicity Newell<sup>311,312</sup>, Katia Nones<sup>311,312</sup>, Ann-Marie Patch<sup>311,312</sup>, John V Pearson<sup>311,312</sup>, Hilda A Pickett<sup>451</sup>, Antonia L Pritchard<sup>311</sup>, Gulietta M Pupo<sup>455</sup>, Robyn PM Saw<sup>452</sup>, Sarah-Jane Schramm<sup>456</sup>, **Richard A Scolyer**<sup>422,452,457,458</sup>, Mark Shackleton<sup>188,218</sup>, Catherine A Shang<sup>459</sup>, Ping Shang<sup>452</sup>, Andrew J Spillane<sup>452</sup>, Jonathan R Stretch<sup>452</sup>, Varsha Tembe<sup>456</sup>, John F Thompson<sup>452</sup>, Ricardo E Vilain<sup>457</sup>, Nick M Waddell<sup>312</sup>, Nicola Waddell<sup>311,312</sup>, James S Wilmott<sup>452</sup>, Scott Wood<sup>311,312</sup>, Qinying Xu<sup>311,312</sup> and Jean Y Yang<sup>460</sup>

## Tumor Specific Providers – Canada (Pancreatic cancer)

John Bartlett<sup>461,462</sup>, Prashant Bavi<sup>463</sup>, Ivan Borozan<sup>9</sup>, Dianne E Chadwick<sup>464</sup>, Michelle Chan-Seng-Yue<sup>463</sup>, Sean Cleary<sup>463,465</sup>, Ashton A Connor<sup>466,467</sup>, Karolina Czajka<sup>468</sup>, Robert E Denroche<sup>463</sup>, Neesha C Dhani<sup>469</sup>, Jenna Eagles<sup>79</sup>, Vincent Ferretti<sup>45,69</sup>, Steven Gallinger<sup>463,466,467</sup>, Robert C Grant<sup>463,470</sup>, David Hedley<sup>469</sup>, Michael A Hollingsworth<sup>471</sup>, **Thomas J Hudson**<sup>78,79</sup>, Gun Ho Jang<sup>463</sup>, Jeremy Johns<sup>79</sup>, Sangeetha Kalimuthu<sup>463</sup>, Sheng-Ben Liang<sup>472</sup>, Ilinca Lungu<sup>463,473</sup>, Xuemei Luo<sup>9</sup>, Faridah Mbabaali<sup>79</sup>, **John D McPherson**<sup>79,463,474</sup>, Treasa A McPherson<sup>470</sup>, Jessica K

Miller<sup>79</sup>, Malcolm J Moore<sup>469</sup>, Faiyaz Notta<sup>463,475</sup>, Danielle Pasternack<sup>79</sup>, Gloria M Petersen<sup>476</sup>, Michael H A Roehrl<sup>133,463,477,478,479</sup>, Michelle Sam<sup>79</sup>, Iris Selander<sup>470</sup>, Stefano Serra<sup>253</sup>, Sagedeh Shahabi<sup>472</sup>, **Lincoln D Stein#**<sup>9,10</sup>, Morgan L Taschuk<sup>45</sup>, Sarah P Thayer<sup>106</sup>, Lee E Timms<sup>79</sup>, Gavin W Wilson<sup>9,463</sup>, Julie M Wilson<sup>463</sup> and Bradly G Wouters<sup>480</sup>

## Tumor Specific Providers – Canada (Prostate cancer)

Timothy A Beck<sup>45</sup>, Vinayak Bhandari<sup>9</sup>, Paul C Boutros<sup>9,133,142,143</sup>, **Robert G Bristow#**<sup>133,481,482,483,484</sup>, Colin C Collins<sup>151</sup>, Shadrielle MG Espiritu<sup>9</sup>, Neil E Fleshner<sup>485</sup>, Natalie S Fox<sup>9</sup>, Michael Fraser<sup>9</sup>, Syed Haider<sup>9</sup>, Lawrence E Heisler<sup>486</sup>, Vincent Huang<sup>9</sup>, Emilie Lalonde<sup>9</sup>, Julie Livingstone<sup>9</sup>, John D McPherson<sup>79,463,474</sup>, Alice Meng<sup>487</sup>, Veronica Y Sabelnykova<sup>9</sup>, Adriana Salcedo<sup>9</sup>, Yu-Jia Shiah<sup>9</sup>, Theodorus Van der Kwast<sup>488</sup> and Takafumi N Yamaguchi<sup>9</sup>

## Tumor Specific Providers – China (Gastric cancer)

Shuai Ding<sup>489</sup>, Daiming Fan<sup>490</sup>, Yong Hou<sup>39,249</sup>, Yi Huang<sup>153,154</sup>, Lin Li<sup>39</sup>, Siliang Li<sup>39,249</sup>, Dongbing Liu<sup>39,249</sup>, Xingmin Liu<sup>39,249</sup>, **Youyong Lu#**<sup>28,29,30</sup>, Yongzhan Nie<sup>490,491</sup>, Hong Su<sup>39,249</sup>, Jian Wang<sup>39</sup>, Kui Wu<sup>39,249</sup>, Xiao Xiao<sup>154</sup>, Rui Xing<sup>29,492</sup>, **Huanming Yang#**<sup>39</sup>, Shanlin Yang<sup>489</sup>, Yingyan Yu<sup>493</sup>,<sup>230</sup>, Xiuqing Zhang<sup>39</sup>, Yong Zhou<sup>39</sup> and Shida Zhu<sup>39,249</sup>

## Tumor Specific Providers – EU: France (Renal cancer)

Rosamonde E Banks<sup>494</sup>, Guillaume Bourque<sup>495,496</sup>, Alvis Brazma<sup>7</sup>, Paul Brennan<sup>497</sup>, **Mark Lathrop#**<sup>496</sup>, Louis Letourneau<sup>498</sup>, Yasser Riazalhosseini<sup>496</sup>, Ghislaine Scelo<sup>497</sup>, **Jörg Tost#**<sup>499</sup>, Naveen Vasudev<sup>500</sup> and Juris Viksna<sup>501</sup>

## Tumor Specific Providers – EU: United Kingdom (Breast cancer)

Sung-Min Ahn<sup>502</sup>, Ludmil B Alexandrov<sup>2,317</sup>, Samuel Aparicio<sup>503</sup>, Laurent Arnould<sup>504</sup>, MR Aure<sup>505</sup>, Shriram G Bhosle<sup>2</sup>, E Birney<sup>7</sup>, Ake Borg<sup>506</sup>, S Boyault<sup>507</sup>, AB Brinkman<sup>508</sup>, JE Brock<sup>509</sup>, A Broeks<sup>510</sup>, Adam P Butler<sup>2</sup>, AL Børresen-Dale<sup>505</sup>, C Caldas<sup>511,512</sup>, Peter J Campbell<sup>1,2</sup>, Suet-Feung Chin<sup>511,512</sup>, Helen Davies<sup>2</sup>, C Desmedt<sup>513</sup>, L Dirix<sup>514</sup>, S Dronov<sup>2</sup>, Anna Ehinger<sup>515</sup>, JE Eyfjord<sup>516</sup>, GG Van den Eynden<sup>517</sup>, A Fatima<sup>217</sup>, Jorge Reis Filho<sup>518</sup>, JA Foekens<sup>519</sup>, PA Futreal<sup>520</sup>, Øystein Garred<sup>521,522</sup>, Moritz Gerstung<sup>7,8</sup>, Dilip D Giri<sup>518</sup>, D Glodzik<sup>2</sup>, Dorthe Grabau<sup>523</sup>, Holmfridur Hilmarsdottir<sup>516</sup>, GK Hooijer<sup>524</sup>, Jocelyne Jacquemier<sup>525</sup>, SJ Jang<sup>526</sup>, Jon G Jonasson<sup>516</sup>, Jos Jonkers<sup>527</sup>, HY Kim<sup>525</sup>, Tari A King<sup>528,529</sup>, Stian Knappskog<sup>2</sup>, G Kong<sup>525</sup>, S Krishnamurthy<sup>530</sup>, S Van Laere<sup>514</sup>, SR Lakhani<sup>531</sup>, A Langerød<sup>505</sup>, Denis Larsimont<sup>532</sup>, HJ Lee<sup>526</sup>, JY Lee<sup>533</sup>, Ming Ta Michael Lee<sup>520</sup>, Yilong Li<sup>2</sup>, Ole Christian Lingjærde<sup>534</sup>, Gaetan MacGrogan<sup>535</sup>, JW Martens<sup>536</sup>, Sancha Martin<sup>2,369</sup>, Iñigo Martincoren<sup>2</sup>, Andrew Menzies<sup>2</sup>, Sandro Morganello<sup>2</sup>, Ville Mustonen<sup>320,321,322</sup>, Serena Nik-Zainal<sup>2,324,325,326</sup>, Sarah O'Meara<sup>2</sup>, I Pauporté<sup>18</sup>, Sarah Pinder<sup>537</sup>, X Pivot<sup>538</sup>, Elena Provenzano<sup>539</sup>,

CA Purdie<sup>540</sup>, Keiran M Raine<sup>2</sup>, M Ramakrishna<sup>2</sup>, K Ramakrishnan<sup>2</sup>, AL Richardson<sup>217</sup>, M Ringnér<sup>506</sup>, Javier Bartolomé Rodríguez<sup>105</sup>, FG Rodríguez-González<sup>175</sup>, G Romieu<sup>541</sup>, Roberto Salgado<sup>253</sup>, Torill Sauer<sup>534</sup>, R Shepherd<sup>2</sup>, AM Sieuwerts<sup>177</sup>, PT Simpson<sup>531</sup>, M Smid<sup>542</sup>, C Sotiriou<sup>55</sup>, PN Span<sup>543</sup>, J Staaf<sup>506</sup>, Lucy Stebbings<sup>2</sup>, Ólafur Andri Stefánsson<sup>544</sup>, Alasdair Stenhouse<sup>545</sup>, **Michael Rudolf Stratton**<sup>2</sup>, HG Stunnenberg<sup>249,546</sup>, Fred Sweep<sup>547</sup>, BK Tan<sup>548</sup>, Jon W Teague<sup>2</sup>, Gilles Thomas<sup>549</sup>, AM Thompson<sup>545</sup>, S Tommasi<sup>550</sup>, I Treilleux<sup>551,552</sup>, Andrew Tutt<sup>217</sup>, NT Ueno<sup>393</sup>, Peter Van Loo<sup>63,64</sup>, P Vermeulen<sup>514</sup>, Alain Viari<sup>428</sup>, MJ van de Vijver<sup>253</sup>, A Vincent-Salomon<sup>546</sup>, David C Wedge<sup>2,354,355</sup>, Bernice Huimin Wong<sup>553</sup>, Lucy Yates<sup>2</sup>, X Zou<sup>2</sup>, CHM van Deurzen<sup>536</sup> and L van't Veer<sup>554,555</sup>

## Tumor Specific Providers – Germany (Malignant lymphoma)

Ole Ammerpohl<sup>556,557</sup>, Sietse Aukema<sup>558,559</sup>, Anke K Bergmann<sup>560</sup>, Stephan H Bernhart<sup>276,277,281</sup>, Hans Binder<sup>276,277</sup>, Arndt Borkhardt<sup>561</sup>, Christoph Borst<sup>562</sup>, Benedikt Brors<sup>82,119,278</sup>, Birgit Burkhardt<sup>563</sup>, Alexander Claviez<sup>564</sup>, Roland Eils<sup>52,54,66,67</sup>, Maria Elisabeth Goebler<sup>565</sup>, Andrea Haake<sup>556</sup>, Siegfried Haas<sup>562</sup>, Martin Hansmann<sup>566</sup>, Jessica I Hoell<sup>561</sup>, Steve Hoffmann<sup>277,279,280,281</sup>, Michael Hummel<sup>567</sup>, Daniel Hübschmann<sup>54,66,83,84,85</sup>, Dennis Karsch<sup>568</sup>, Wolfram Klapper<sup>559</sup>, Kortine Kleinheinz<sup>52,54</sup>, Michael Kneba<sup>568</sup>, Jan O Korbel<sup>7,8</sup>, Helene Kretzmer<sup>277,281</sup>, Markus Kreuz<sup>569</sup>, Dieter Kube<sup>570</sup>, Ralf Küppers<sup>571</sup>, Chris Lawerenz<sup>67</sup>, Dido Lenze<sup>567</sup>, Peter Lichter<sup>408</sup>, Markus Loeffler<sup>569</sup>, Cristina López<sup>262,556</sup>, Luisa Mantovani-Löffler<sup>572</sup>, Peter Möller<sup>573</sup>, German Ott<sup>574</sup>, Bernhard Radlwimmer<sup>408</sup>, Julia Richter<sup>556,559</sup>, Marius Rohde<sup>575</sup>, Philip C Rosenstiel<sup>576</sup>, Andreas Rosenwald<sup>577</sup>, Markus B Schilhabel<sup>576</sup>, Matthias Schlesner<sup>52,110</sup>, Stefan Schreiber<sup>578</sup>, **Reiner Siebert**<sup>262,761</sup>, Peter F Stadler<sup>276,277,281</sup>, Peter Staib<sup>579</sup>, Stephan Stilgenbauer<sup>580</sup>, Stephanie Sungalee<sup>8</sup>, Monika Szczepanowski<sup>559</sup>, Umut H Toprak<sup>54,581</sup>, Lorenz HP Trümper<sup>570</sup>, Rabea Wagoner<sup>262,556</sup> and Thorsten Zenz<sup>82</sup>

## Tumor Specific Providers – Germany (Pediatric Brain cancer)

Ivo Buchhalter<sup>52,53,54</sup>, Juergen Eils<sup>66,67</sup>, Roland Eils<sup>52,54,66,67</sup>, Volker Hovestadt<sup>408</sup>, Barbara Hutter<sup>80,81,82</sup>, David TW Jones<sup>301,302</sup>, Natalie Jäger<sup>52</sup>, Christof von Kalle<sup>84</sup>, Marcel Kool<sup>98,301</sup>, Jan O Korbel<sup>7,8</sup>, Andrey Korshunov<sup>98</sup>, Pablo Landgraf<sup>582</sup>, Chris Lawerenz<sup>67</sup>, Hans Lehrach<sup>583</sup>, **Peter Lichter**<sup>408</sup>, Paul A Northcott<sup>584</sup>, Stefan M Pfister<sup>98,301,585</sup>, Bernhard Radlwimmer<sup>408</sup>, Guido Reifenberger<sup>582</sup>, Matthias Schlesner<sup>52,110</sup>, Hans-Jörg Warnatz<sup>583</sup>, Joachim Weischenfeldt<sup>8,113,114</sup>, Stephan Wolf<sup>586</sup>, Marie-Laure Yaspo<sup>583</sup> and Marc Zapatka<sup>408</sup>

## Tumor Specific Providers – Germany (Prostate cancer)

Yassen Assenov<sup>587</sup>, Benedikt Brors<sup>82,119,278</sup>, Juergen Eils<sup>66,67</sup>, Roland Eils<sup>52,54,66,67</sup>, Lars Feuerbach<sup>119</sup>, Clarissa Gerhauser<sup>285</sup>, Jan O Korbel<sup>7,8</sup>, Chris Lawerenz<sup>67</sup>, Hans Lehrach<sup>583</sup>, Sarah Minner<sup>588</sup>, Christoph Plass<sup>285</sup>, **Guido Sauter**<sup>589</sup>, Thorsten Schlomm<sup>114,590</sup>, Nikos Sidiropoulos<sup>113</sup>, Ronald Simon<sup>589</sup>, **Holger Sültmann**<sup>82,591</sup>, Hans-Jörg Warnatz<sup>583</sup>, Dieter Weichenhan<sup>285</sup>, Joachim

Weischenfeldt<sup>8,113,114</sup> and Marie-Laure Yaspo<sup>583</sup>

## Tumor Specific Providers – India (Oral cancer)

Nidhan K Biswas<sup>592</sup>, Luca Landoni<sup>424</sup>, Arindam Maitra<sup>592</sup>, **Partha P Majumder#**<sup>592</sup> and **Rajiv Sarin#**<sup>593</sup>

## Tumor Specific Providers – Italy (Pancreatic cancer)

Davide Antonello<sup>424</sup>, Stefano Barbi<sup>431</sup>, Claudio Bassi<sup>424</sup>, Samantha Bersani<sup>427</sup>, Giada Bonizzato<sup>428</sup>, Cinzia Cantù<sup>428</sup>, Ivana Cataldo<sup>427,428</sup>, Sara Cingarlini<sup>37</sup>, Vincenzo Corbo<sup>428,431</sup>,<sup>432</sup>, Angelo P Dei Tos<sup>594</sup>, Matteo Fassan<sup>595</sup>, Sonia Grimaldi<sup>428</sup>, Luca Landoni<sup>424</sup>, Rita T Lawlor<sup>428</sup>, Claudio Luchini<sup>427</sup>, Andrea Mafficini<sup>428</sup>, Giuseppe Malleo<sup>424</sup>, Giovanni Marchegiani<sup>424</sup>, Michele Milella<sup>37</sup>, Marco Miotto<sup>424</sup>, Salvatore Paiella<sup>424</sup>, Antonio Pea<sup>424</sup>, Paolo Pederzoli<sup>424</sup>, Borislav C Rusev<sup>428</sup>, Andrea Ruzzenente<sup>424</sup>, Roberto Salvia<sup>424</sup>, Maria Scardoni<sup>427</sup>, **Aldo Scarpa#**<sup>428</sup>, Elisabetta Sereni<sup>424</sup>, Michele Simbolo<sup>431</sup>, Nicola Sperandio<sup>428</sup>, Giampaolo Tortora<sup>37,38</sup> and Caterina Vicentini<sup>428</sup>

## Tumor Specific Providers – Japan (Biliary tract cancer)

Yasuhito Arai<sup>33</sup>, Natsuko Hama<sup>33</sup>, Nobuyoshi Hiraoka<sup>596</sup>, Fumie Hosoda<sup>33,597</sup>, Mamoru Kato<sup>366</sup>, Hiromi Nakamura<sup>33</sup>, Hidenori Ojima<sup>598</sup>, Takuji Okusaka<sup>599</sup>, **Tatsuhiko Shibata#**<sup>33,34</sup>, Yasushi Totoki<sup>33</sup> and Tomoko Urushidate<sup>34</sup>

## Tumor Specific Providers – Japan (Gastric cancer)

**Hiroyuki Aburatani#**<sup>272</sup>, Yasuhito Arai<sup>33</sup>, Masashi Fukayama<sup>600</sup>, Natsuko Hama<sup>33</sup>, Fumie Hosoda<sup>33,597</sup>, Shumpei Ishikawa<sup>601</sup>, Hitoshi Katai<sup>602</sup>, Mamoru Kato<sup>366</sup>, Hiroto Katoh<sup>603</sup>, Daisuke Komura<sup>601</sup>, Genta Nagae<sup>272,284</sup>, Hiromi Nakamura<sup>33</sup>, Hirofumi Rokutan<sup>604</sup>, Mihoko Saito-Adachi<sup>33</sup>, **Tatsuhiko Shibata#**<sup>33,34</sup>, Akihiro Suzuki<sup>272,605</sup>, Hirokazu Taniguchi<sup>606</sup>, Kenji Tatsuno<sup>272</sup>, Yasushi Totoki<sup>33</sup>, Tetsuo Ushiku<sup>600</sup>, Shinichi Yachida<sup>33,607</sup> and Shogo Yamamoto<sup>272</sup>

## Tumor Specific Providers – Japan (Liver cancer)

Hiroyuki Aburatani<sup>272</sup>, Hiroshi Aikata<sup>608</sup>, Koji Arihiro<sup>608</sup>, Shun-ichi Ariizumi<sup>609</sup>, Keith A Boroevich<sup>47,48</sup>, Kazuaki Chayama<sup>608</sup>, Akihiro Fujimoto<sup>48</sup>, Masashi Fujita<sup>48</sup>, Mayuko Furuta<sup>48</sup>, Kunihito Gotoh<sup>610</sup>, Natsuko Hama<sup>33</sup>, Takanori Hasegawa<sup>87</sup>, Shinya Hayami<sup>611</sup>, Shuto Hayashi<sup>87</sup>, Satoshi Hirano<sup>612</sup>, Seiya Imoto<sup>86,87</sup>, Mamoru Kato<sup>366</sup>, Yoshiiku Kawakami<sup>608</sup>, Kazuhiro Maejima<sup>48</sup>, Satoru Miyano<sup>87</sup>, Genta Nagae<sup>272,284</sup>, **Hidewaki Nakagawa#**<sup>48</sup>, Hiromi Nakamura<sup>33</sup>, Toru



Nakamura<sup>612</sup>, Kaoru Nakano<sup>48</sup>, Hideki Ohdan<sup>608</sup>, Aya Sasaki-Oku<sup>48</sup>, **Tatsuhiko Shibata#**<sup>33,34</sup>, Yuichi Shiraishi<sup>87</sup>, Hiroko Tanaka<sup>87</sup>, Yasushi Totoki<sup>33</sup>, Tatsuhiko Tsunoda<sup>47,220,221,222</sup>, Masaki Ueno<sup>611</sup>, Rui Yamaguchi<sup>87</sup>, Masakazu Yamamoto<sup>609</sup> and Hiroki Yamaue<sup>611</sup>

## **Tumor Specific Providers – Singapore (Biliary tract cancer)**

Su Pin Choo<sup>613</sup>, Ioana Cutcutache<sup>267,319</sup>, Narong Khuntikeo<sup>424,614</sup>, John R McPherson<sup>267,319</sup>, Choon Kiat Ong<sup>615</sup>, Chawalit Pairojkul<sup>253</sup>, Irinel Popescu<sup>616</sup>, **Steven G Rozen#**<sup>267,268,319</sup>, **Patrick Tan#**<sup>254,266,267,268</sup> and **Bin Tean Teh#**<sup>266,267,268,269,270</sup>

## **Tumor Specific Providers – South Korea (Blood cancer)**

Keun Soo Ahn<sup>617</sup>, Hyung-Lae Kim<sup>27</sup>, Youngil Koh<sup>307,308</sup> and **Sung-Soo Yoon#**<sup>308</sup>

## **Tumor Specific Providers – Spain (Chronic Lymphocytic Leukemia)**

Marta Aymerich<sup>618</sup>, **Elias Campo#**<sup>619,620</sup>, Josep Ll Gelpi<sup>46,71</sup>, Ivo G Gut<sup>135,136</sup>, Marta Gut<sup>135,136</sup>, Armando Lopez-Guillermo<sup>621</sup>, Carlos López-Otín<sup>622</sup>, Xose S Puente<sup>623</sup>, Romina Royo<sup>105</sup> and David Torrents<sup>105,111</sup>

## **Tumor Specific Providers – United Kingdom (Bone cancer)**

Fernanda Amary<sup>624</sup>, Daniel Baumhoer<sup>625</sup>, Sam Behjati<sup>2</sup>, Bodil Bjerkehagen<sup>626</sup>, **Peter J Campbell#**<sup>1,2</sup>, **Adrienne M Flanagan#**<sup>627</sup>, PA Futreal<sup>520</sup>, Ola Myklebost<sup>628</sup>, Nischalan Pillay<sup>629</sup>, Patrick Tarpey<sup>630</sup>, Roberto Tirabosco<sup>631</sup> and Olga Zaikova<sup>632</sup>

## **Tumor Specific Providers – United Kingdom (Chronic myeloid disorders)**

Jacqueline Boulton<sup>633</sup>, David T Bowen<sup>2</sup>, Adam P Butler<sup>2</sup>, **Peter J Campbell#**<sup>1,2</sup>, Mario Cazzola<sup>634</sup>, Carlo Gambacorti-Passerini<sup>186</sup>, Anthony R Green<sup>295</sup>, Eva Hellstrom-Lindberg<sup>635</sup>, Luca Malcovati<sup>634</sup>, Sancha Martin<sup>2,369</sup>, Jyoti Nangalia<sup>636</sup>, Elli Papaemmanuil<sup>2</sup> and Paresh Vyas<sup>311,637</sup>

## **Tumor Specific Providers – United Kingdom (Esophageal cancer)**

Yeng Ang<sup>638</sup>, Hugh Barr<sup>639</sup>, Duncan Beardsmore<sup>640</sup>, Matthew Eldridge<sup>294</sup>, **Rebecca C Fitzgerald#**<sup>325</sup>, James Gossage<sup>641</sup>, Nicola Grehan<sup>325</sup>, George B Hanna<sup>642</sup>, Stephen J Hayes<sup>643,644</sup>,

Ted R Hupp<sup>645</sup>, David Khoo<sup>646</sup>, Jesper Lagergren<sup>635,647</sup>, Laurence E Lovat<sup>251</sup>, Shona MacRae<sup>395</sup>, Maria O'Donovan<sup>325</sup>, J Robert O'Neill<sup>648</sup>, Simon L Parsons<sup>649</sup>, Shaun R Preston<sup>650</sup>, Sonia Puig<sup>651</sup>, Tom Roques<sup>652</sup>, Grant Sanders<sup>248</sup>, Sharmila Sothi<sup>653</sup>, Simon Tavaré<sup>294</sup>, Olga Tucker<sup>654</sup>, Richard Turkington<sup>655</sup>, Timothy J Underwood<sup>656</sup> and Ian Welch<sup>657</sup>

## Tumor Specific Providers – United Kingdom (Prostate cancer)

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## Tumor Specific Providers – United States (TCGA)

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