opnMe by Boehringer Ingelheim

We are open science

opnMe® is the open innovation portal of Boehringer Ingelheim

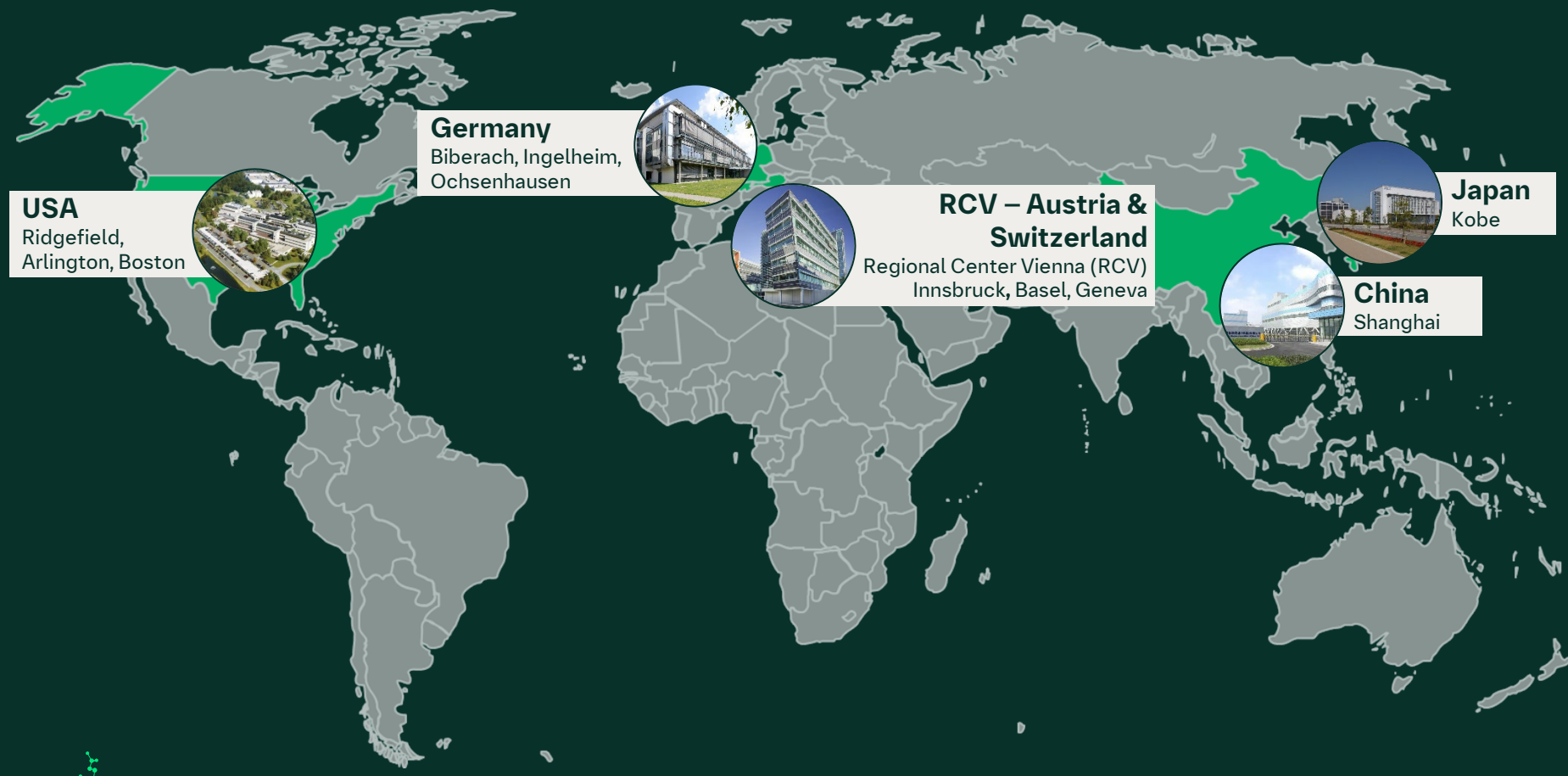
Markus Koester

March 13, 2025

PharmaForum Wiesbaden

Boehringer Ingelheim at a glance – a global, family-owned pharmaceutical company

Founded in Ingelheim, Germany, 1885



11,000

R&D employees worldwide

25%

Net human pharma sales in R&D investment

Focus areas

- Cardio-renal-metabolic
- Eye Health
- Immunology & Respiratory
- Neuroscience & Mental health
- Oncology

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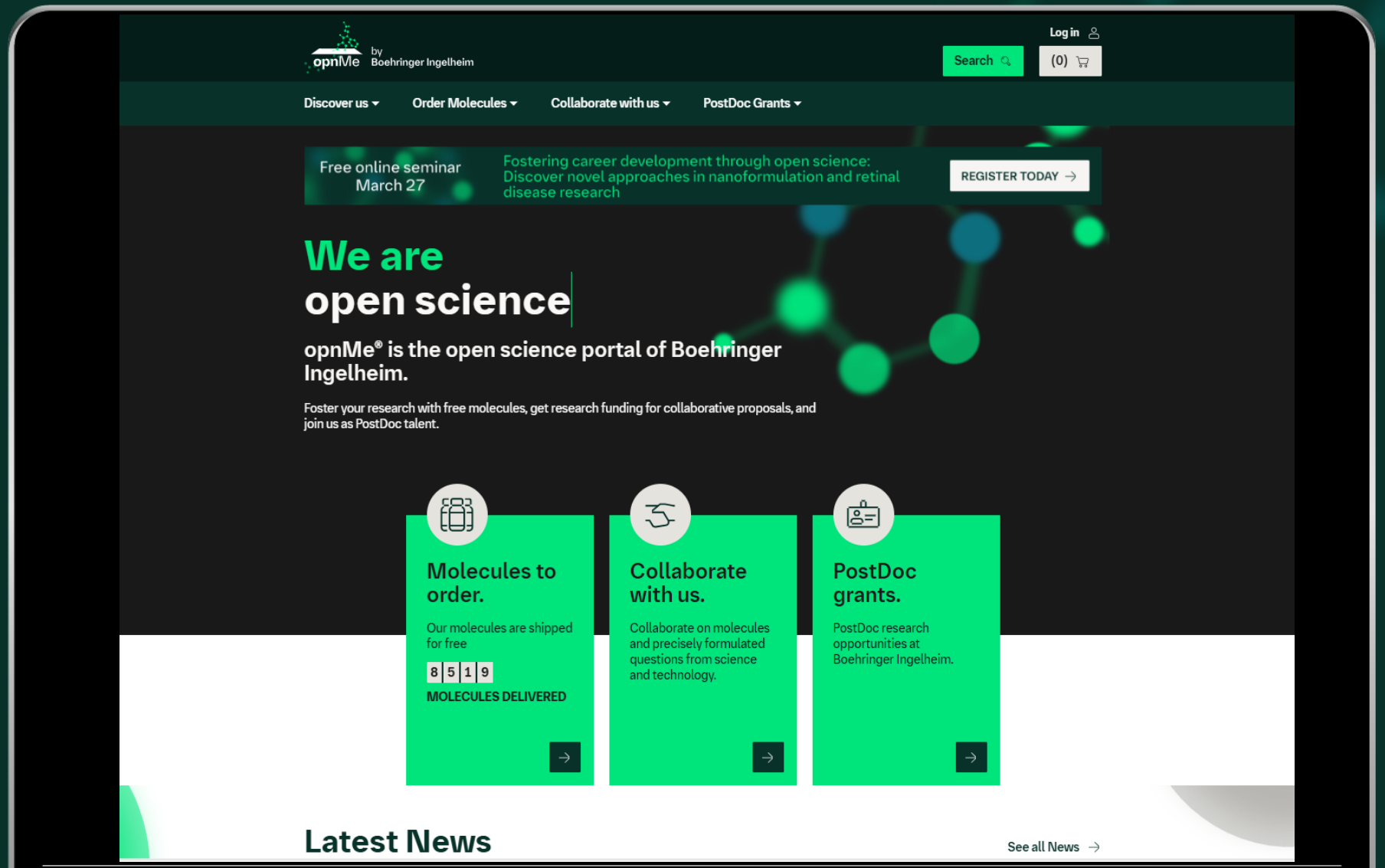
Source: Boehringer Ingelheim Annual Report 2023

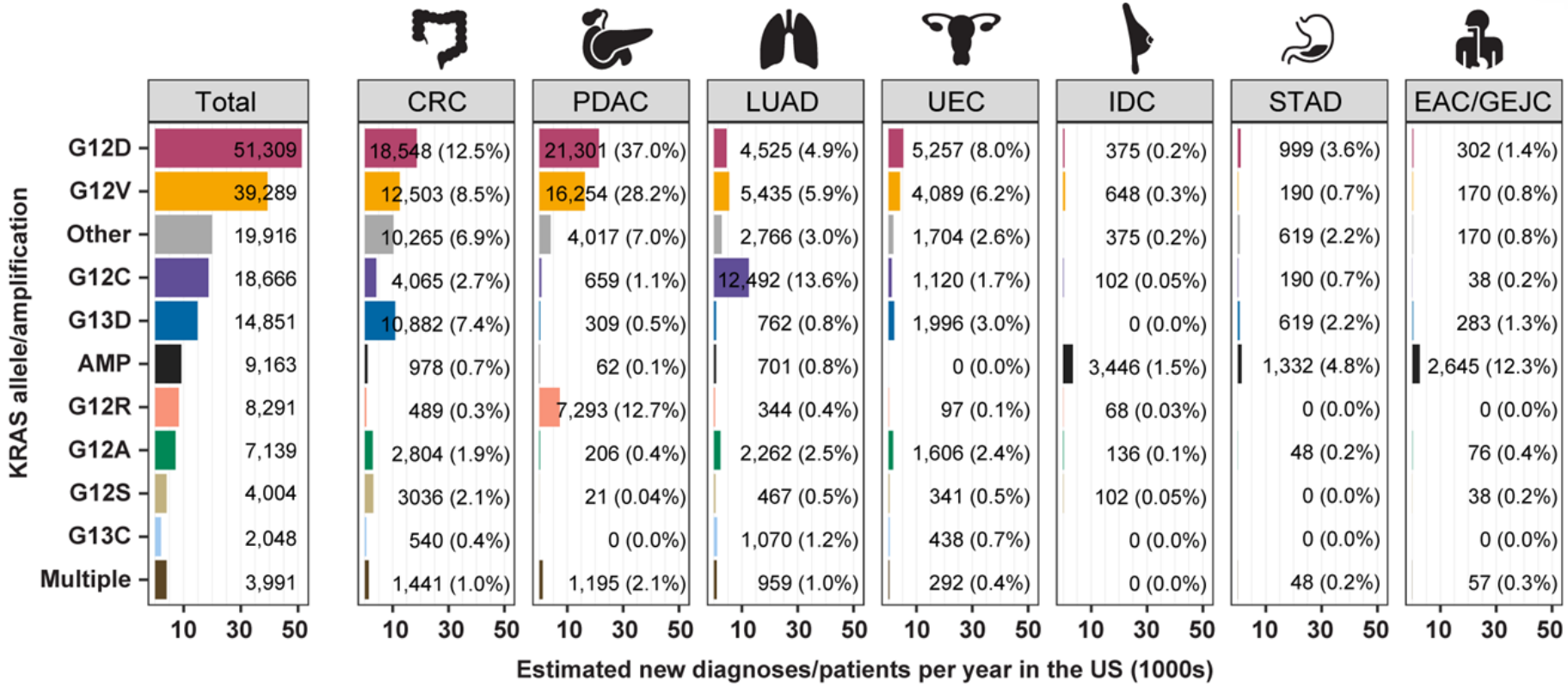
opnMe.com

The open innovation portal of Boehringer Ingelheim



Why KRAS? Addressing a high unmet need: Targeting KRAS aberrations in cancer treatment

> 200,000 new patients per year in US harboring KRAS aberrations[1]



CRC: colorectal cancer; PDAC: Pancreatic ductal adenocarcinoma; LUAD: Lung adenocarcinoma; UEC: Undifferentiated endometrial carcinoma; IDC: Invasive ductal breast carcinoma; STAD: Stomach adenocarcinoma; EAC/GEJC: Esophageal adenocarcinoma/ gastroesophageal junction cancer

[1]Hofmann, Gerlach, Misale, Petronczki and Kraut, Cancer Discovery 2022; 12: 924-937

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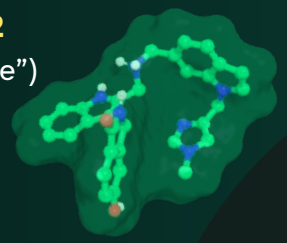
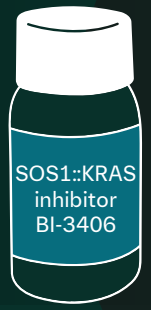
The KRAS evolution on opnMe:

- 660 orders from 28 countries
- 15+ independent publications (growing)
- 11 research collaborations started

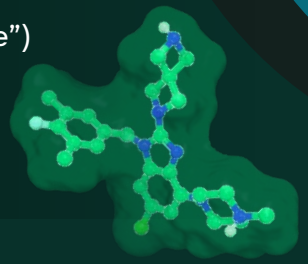
1 **KRAS switch I/II pocket inhibitor | BI-2852**
(Launched 2019 as “molecule free of charge”)



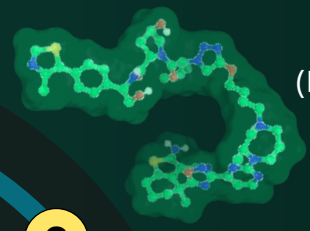
2 **SOS1 inhibitor | BI-3406**
(Launched 2019 as “molecule for collaboration”)



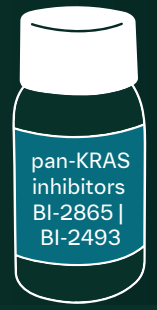
3 **SOS1 activator | VUBI1**
(Launched 2021 as “molecule free of charge”)
Collaboration with Vanderbilt University



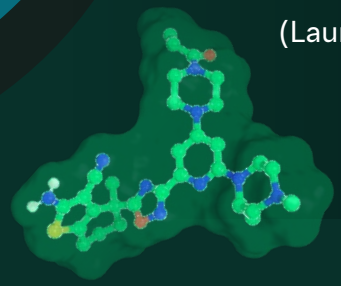
6 **pan-KRAS degrader | ACBI3**
(Launched 2024 as “molecule free of charge”)
Collaboration with Centre for Targeted Protein Degradation, Dundee University



5 **pan-KRAS inhibitors | BI-2865 | BI-2493**
(Launched 2023 as “molecules for collaboration”)



4 **KRAS^{G12C} inhibitor | BI-0474**
(Launched 2024 as “molecule free of charge”)
Collaboration with Vanderbilt University



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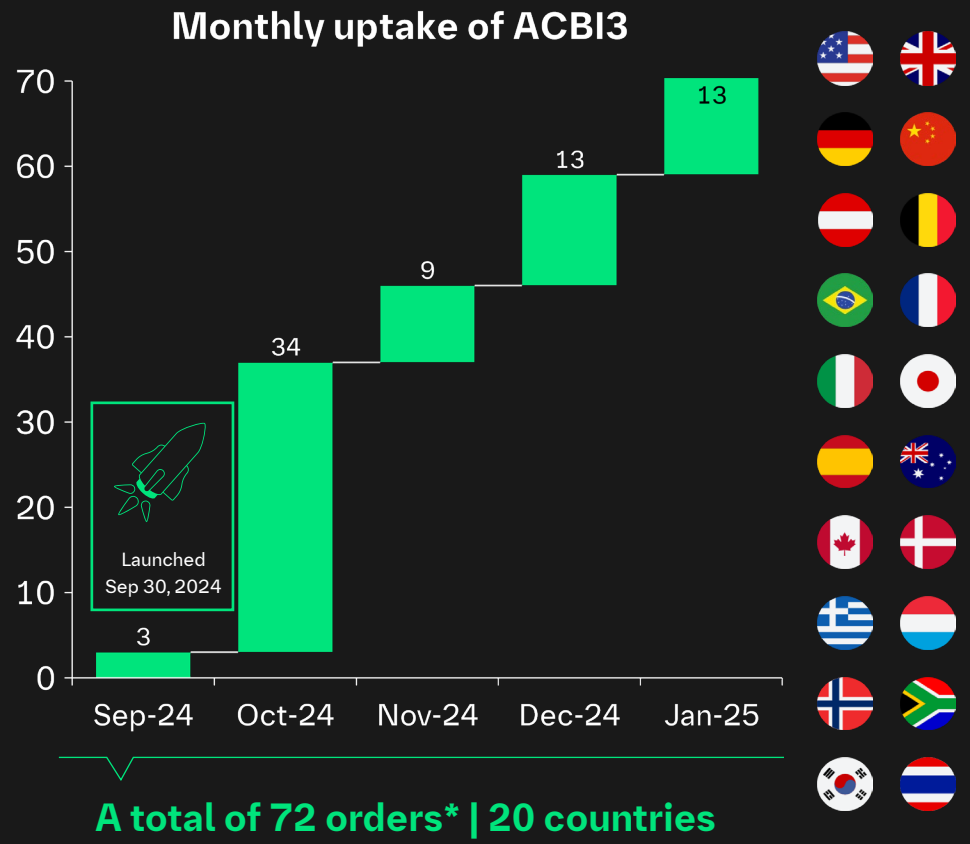
Molecule to order:
ACBI3, a potent, first in class pan-KRAS degrader

Our latest M2O → Scan the QR and order for free on opnMe.com!

Launched
Sep 30, 2024

Order now for free

opnMe by Boehringer Ingelheim

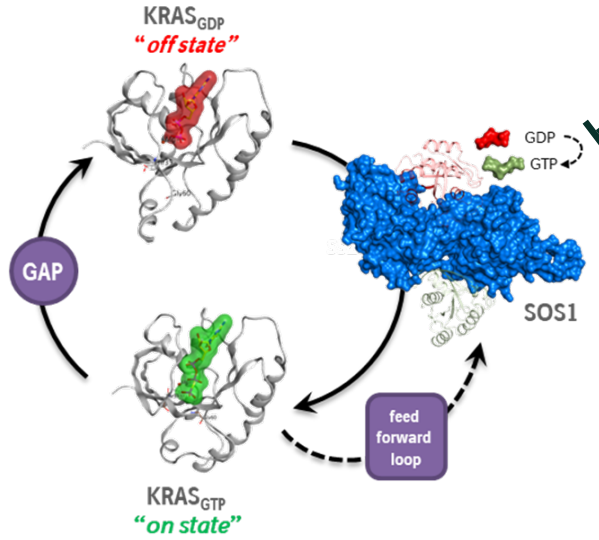


A total of 72 orders* | 20 countries

Molecule for collaboration:

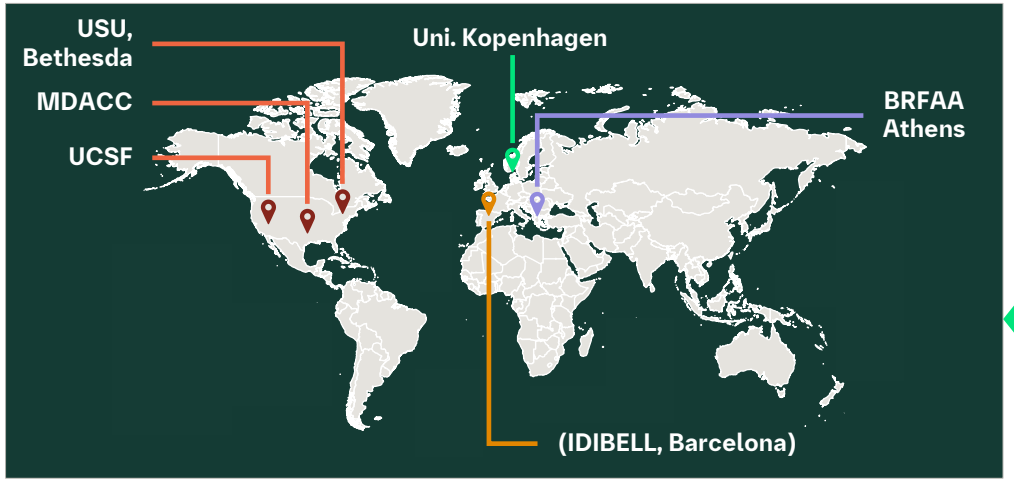
SOS1 Inhibitor BI-3406 blocks the exchange from GDP to GTP RAS

Molecule for collaboration on opnMe in 2019



SOS1i

Inhibits **SOS1** interaction with **KRAS^{GDP}**, **NRAS^{GDP}** and **HRAS^{GDP}**



Kessler, Gerlach, Kraut and McConnell,
Curr Opin Chem Biol, 2021

116
proposals

24
countries

6
selected for collaborations

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opnMe proposal: Studying SOS1 Mutant Tumors

Incidence of cancers with SOS1 activating mutations

- Diverse oncogenic point mutations in SOS1 gene are observed in 0.1–2% of cancer patients
- Sequencing panels covering SOS1: UCSF500, MSK-IMPACT468, and ONCOPANEL-3.1
- Inclusion criteria in the Phase 1 study with the SOS1i MRTX0902 in monotherapy (NCT05578092): "*Known annotated recurrent activating SOS1, PTPN11, or EGFR mutation, or known annotated recurrent inactivating NF1 mutation*"

EACR-Boehringer Ingelheim Conference
DRUGGING AND REGULATING THE MAP KINASE PATHWAY
Virtual event | 21-22 February 2023

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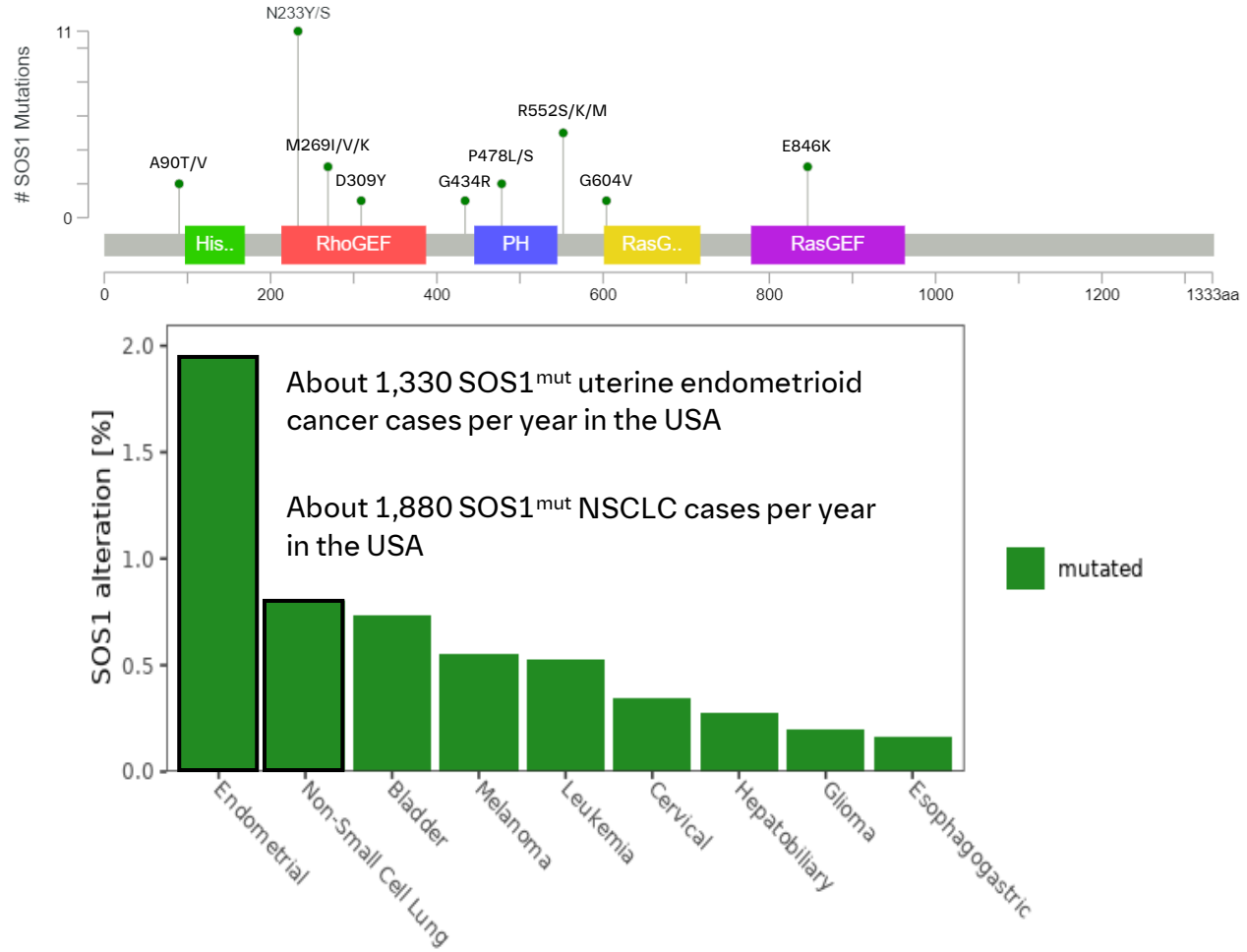
TCGA PanCancer www.cbioportal.org

Note: Variants of unknown significance excluded

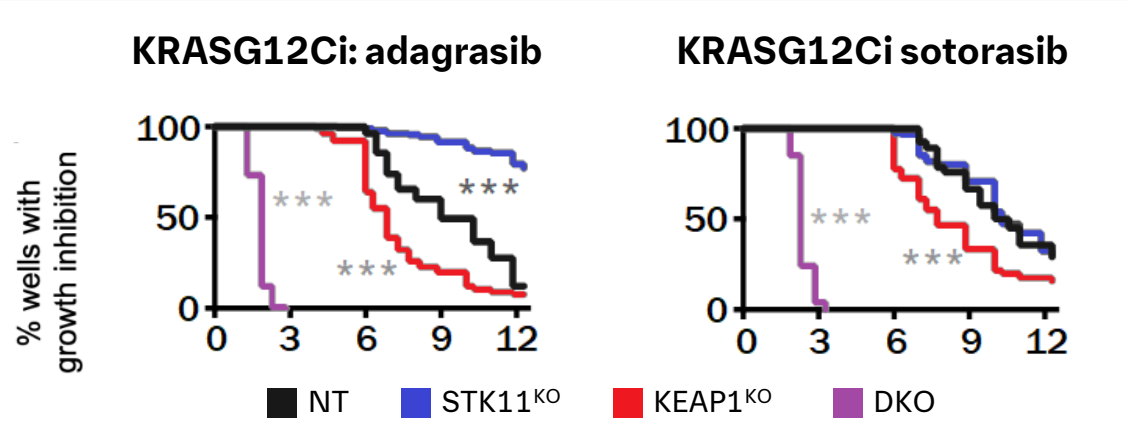
University of California San Francisco

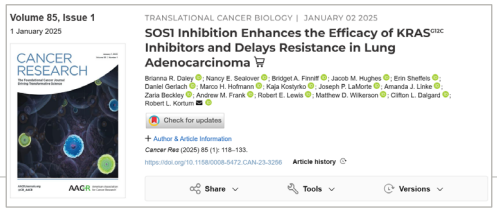


Intrinsic Resistance: KEAP1 and STK11 Mutation affect KRASG12Ci response

opnMe proposal: Study a combination therapy in a defined patient population

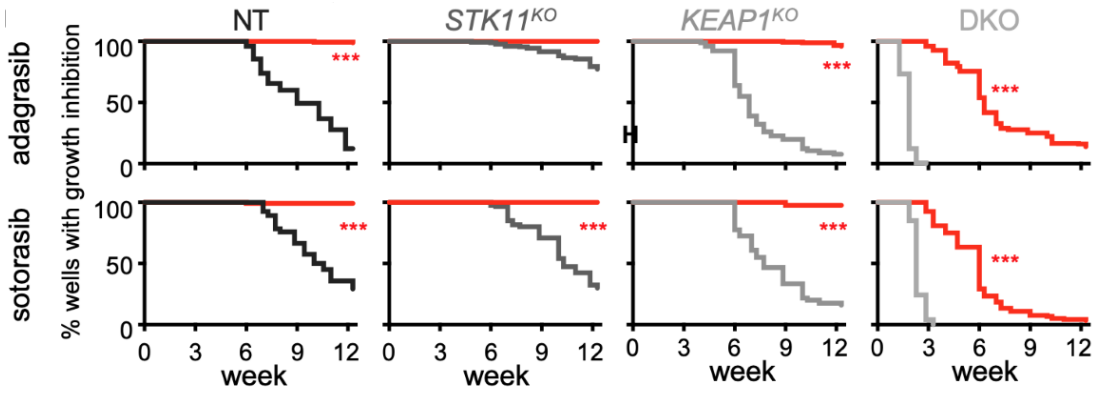
KEAP1 and STK11 co-mutations regulate resistance to G12Ci.
Multi-well *in situ* resistance assays using NCI-H358 cells





Daley BR. et al. 2025 Cancer Res.

Treatment with SOS1i
both delayed G12Ci resistance



+SOS1i (BI-3406, 300nM)

We found that SOS1i combinations inhibited G12Ci resistance in KEAP1KO and KEAP1/STK11 DKO (double knock-out) NCI-H358 cells

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Impacting science across the world with opnMe

Molecules to orders

- >90 molecules covering 11 MoAs
- 2,700 orders with more than 8,000 molecule shipments with scientists from 55 countries

Collaboration programs

- >60 collaboration projects launched
- 2,400 research collaboration proposals with close to 150 projects started

More than

200 publications

released since 2017

Direct and indirect

Pipeline impact

for more than 30 in-house projects

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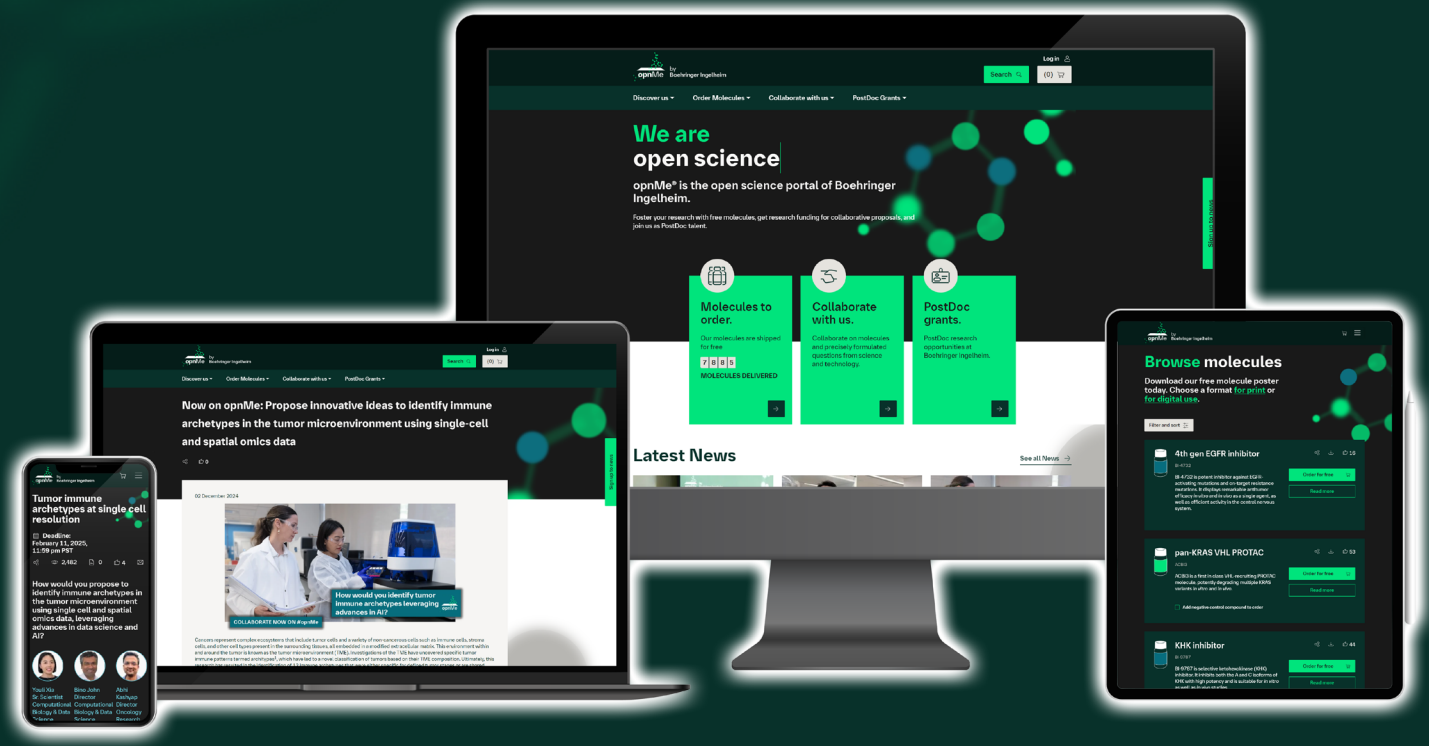
> As an expert in SOS1/2 biology and tumorigenesis, I was pleased to see the opnMe call for novel hypotheses around SOS1::KRAS. It was the starting point that led to a productive research collaboration and now culminated into a high-profile publication
>
> ***Robert Kortum, Associate Professor, USUHS Bethesda***

Visit
opnMe.com



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- opnMe team