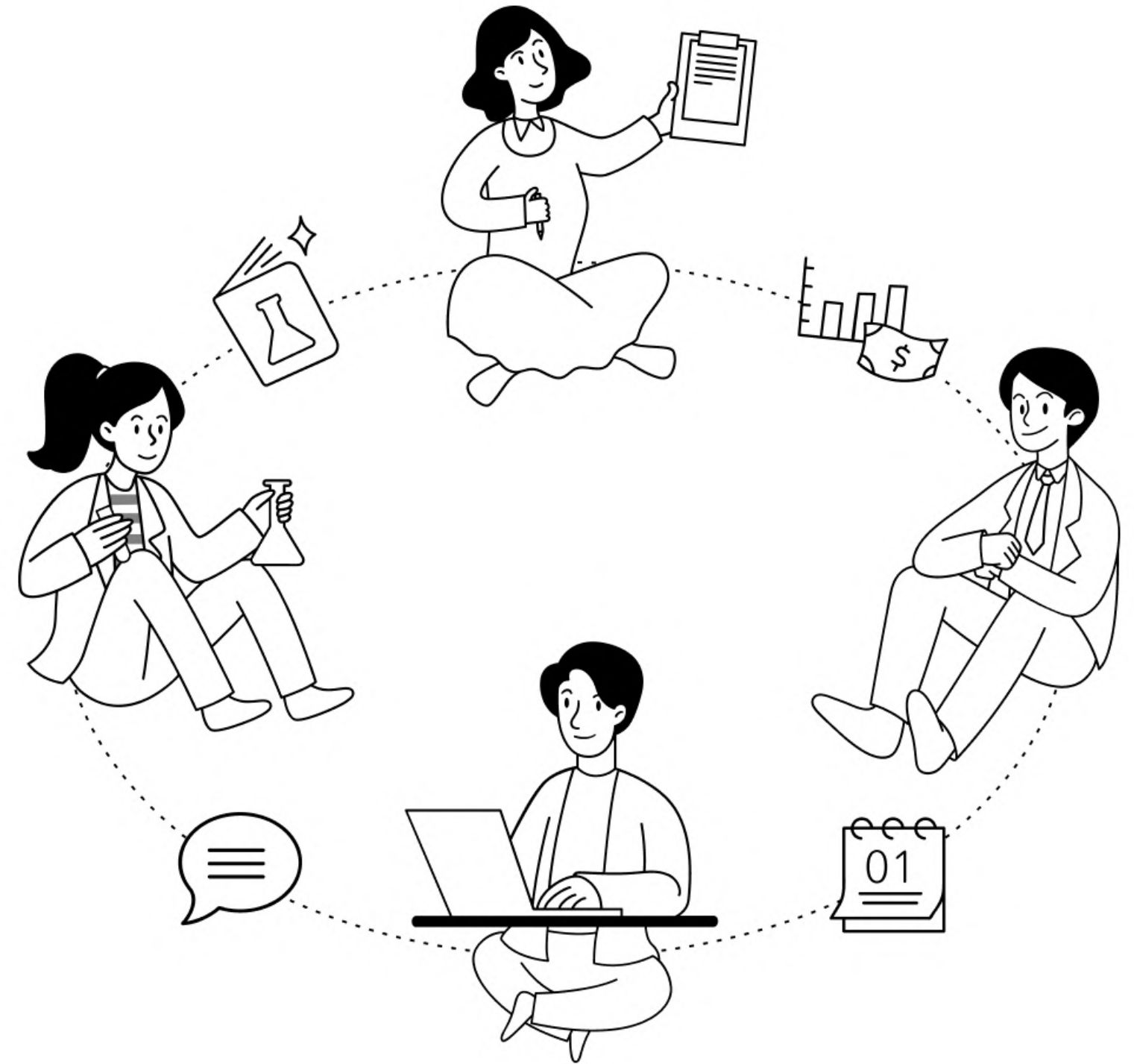


Colabra

Enterprise-ready AI Copilot for R&D decision makers

Colabra eliminates data silos and translates scattered data into actionable insights.



Fragmented systems are limiting innovation at R&D enterprises



We have too many apps and integrations. We need to tackle the integration challenges on the operational side (and not just analytics).
— Novartis, Associate Director, Scientific Products



I've given up on the idea of getting one system set up and making it the standard. The one thing we enforce is a unified front-end. No vendor solution does this.
— Roche, Global Head Knowledge Management



Science today is all about remixing data from different sources.
— Johnson & Johnson, VP R&D



Data centric research needs knowledge maps to deliver new opportunities and improve productivity.
— AstraZeneca, VP R&D IT

Access-controlled data integration layer optimized for LLMs

- Connect software and hardware from across the research process.
- Leverage internally-developed machine learning models.
- Mitigate legal, regulatory and business risks.

Project #1 AS A 4

GOVERNANCE

- GitHub COVID-JSON to CSV script Review requested 5 days ago
- Clustermarket PCR thermocycler booking Aoi Senju · 2h 30m · \$40
- TetraScience HG Protocol COVID-JSON to CSV 2 tasks · 5 outputs
- .../covid-tseries-AK-2022-11-19.csv S3/ts-aperture-datalake

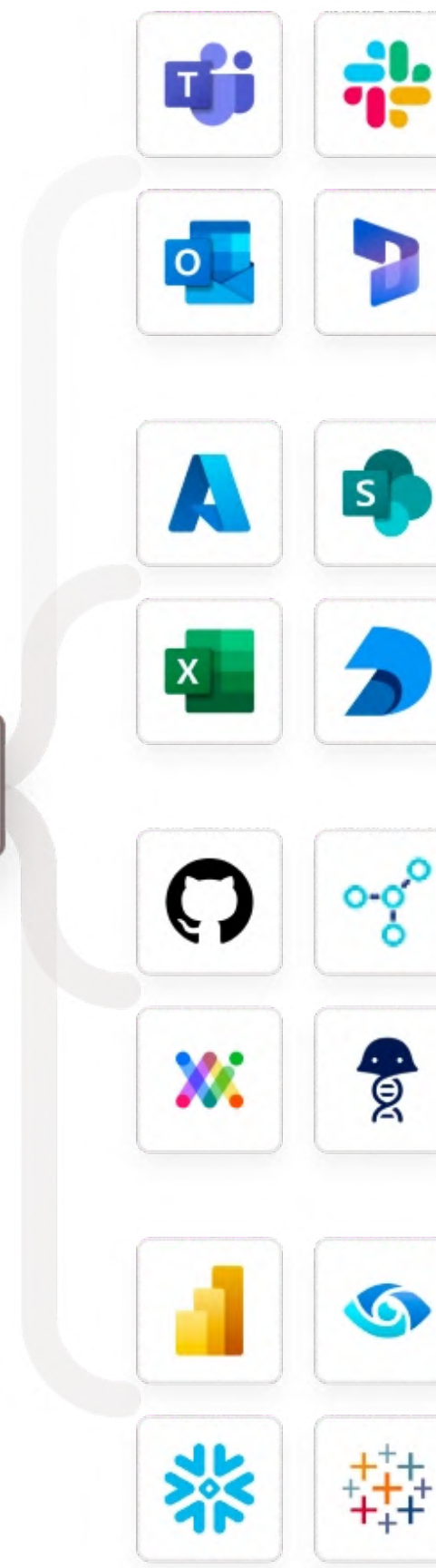
ACTIVITY LOG

- Aoi Senju created experiment. 5 days ago
- Philip Seifi 4 days ago
Please connect with team @Prometheus on thermocycler availability.
- Aoi Senju booked PCR thermocycler for 2h 30m on 2023-06-21.
- COVID-JSON to CSV script PR merged.
- HG Protocol COVID-JSON to CSV workflow started.

ANALYTICS

	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
Mon													
Wed													
Fri													

Research: 8h 16m (-12%) | Time to first review: 8h 16m (+27%) | Time to approval: 8h 16m (+53%)



Activate unstructured data with an AI Copilot deployed to your private cloud

- Monitor progress across projects
- Assess risk and devise mitigation strategies
- Plan future research needs
- Search using natural language

Link to full [demo video](#)



USE CASE 1

Monitor research progress across all projects

- Greater transparency with interdisciplinary collaboration and communication
- Aggregate progress across all connected hardware and software tools

AI Copilot

Greetings! I'm Zara, your research copilot. I can find experiments, assess risks, monitor ongoing projects, find new opportunities, and more.

Give me a brief progress report for PRO-472 for the past week.

PRO-472 Proteomic transcriptomic analysis...

Here's what happened last week:

- The team has completed the RNA extraction and sequencing of tick samples.
- Data analysis is ongoing and initial results show a high level of transcriptional activity in genes related to blood feeding and immune response.
- The team is currently validating the differentially expressed genes through quantitative PCR and confirming the identity of the tick species.
- The team has also started preparing the samples for proteomic analysis.

Let me know if there's anything else I can assist you with or if you have any further questions.

Who's working on it? Were there any blockers?

Clear chat Ask me anything...

AI Copilot

Greetings! I'm Zara, your research copilot. I can find experiments, assess risks, monitor ongoing projects, find new opportunities, and more.

Summarize today's key discussions in about PRO-472 in our team channels.

PRO-472 Proteomic transcriptomic analysis...

Today's discussions focused on a challenge with sample preparation for proteomic analysis, and computational analysis.

1. Sample preparation challenge: The team faced difficulties in sample preparation for proteomic analysis due to high concentrations of salts and contaminants in tick samples, leading to low protein yields and identification issues.
2. Potential solutions: The team discussed optimizing the sample preparation protocol, with Dr. Rodriguez providing valuable insights that resulted in improved protein yields and more accurate identification of tick protein expression.
3. Computational analysis: The computational team debated on GitHub the best method for identifying differentially expressed genes and pathways. They eventually settled on using DESeq2 and KEGG for this purpose.

#721 DESeq2 and KEGG Implementation

Clear chat Ask me anything...

USE CASE 2

Assess risk and devise mitigation strategies

- Identify areas of inefficiency or bottlenecks in the laboratory workflow and propose solutions to streamline processes
- Assess the effectiveness of current SOPs and propose updates or modifications based on observed results and team feedback

AI Copilot

Greetings! I'm Zara, your research copilot. I can find experiments, assess risks, monitor ongoing projects, find new opportunities, and more.

What new risks or issues emerged in PRO-472 in the last week?

PRO-472 Proteomic transcriptomic analysis...

One potential risk that could be identified is the potential for technical issues in the proteomic analysis of tick samples.

Specifically, there were discussions about the potential for sample contamination and difficulties in identifying tick protein expression due to the complex nature of tick saliva.

These issues could potentially delay the completion of the proteomic analysis and impact the project timeline.

To mitigate this risk, the team is taking the following steps:

- Optimizing the sample preparation protocol to minimize contamination.
- Seeking assistance from Dr. James Kim, our proteomics expert with extensive experience in analyzing complex biological samples, including tick saliva.

What other steps can we take? Who else we should involve?

Clear chat Ask me anything...

AI Copilot

Greetings! I'm Zara, your research copilot. I can find experiments, assess risks, monitor ongoing projects, find new opportunities, and more.

Suggest process improvements based on PRO-472 performance data.

PRO-472 Proteomic transcriptomic analysis...

Based on my analysis of the lab notebook, GitHub, and other connected tools, here are some process improvements that could be considered:

1. Sample preparation optimization: Aim to reduce salt and contaminant concentrations in samples by at least 40% to achieve a substantial improvement in protein yield and identification accuracy. This will help shorten the sample preparation stage by an estimated 15%.

To reach that goal, consider the following steps:

1. Implement additional sample cleanup steps, such as using desalting columns or dialysis to remove excess salts and other contaminants.
2. Explore alternative protein extraction methods that minimize the presence of contaminants, such as using specific protein precipitation techniques or liquid-liquid extraction.
3. Test multiple extraction protocols to identify the optimal method for tick samples, considering factors like protein yield, purity, and ease of execution.
4. Consult with experts like Dr. James Kim to review the progress and receive guidance on optimizing the protocol.

Clear chat Ask me anything...

USE CASE 3

Plan future research and resource needs

- Prioritize and allocate resources across stakeholders and teams effectively to minimize blockers
- Assess project feasibility and potential impact to uncover synergies with other ongoing or previous projects

AI Copilot

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Evaluate the feasibility of the new project proposals

- PRO-481 Sustainable packaging material
- PRO-480 Targeted drug delivery system...

Based on my analysis of the data and information available for PRO-480 and PRO-481, I have assessed the feasibility of the projects as follows:

1. PRO-481: The R&D department has team members with expertise in materials science, chemistry, and polymer engineering. These skills are crucial for developing sustainable packaging materials. However, the department may lack expertise in sustainable sourcing and life cycle assessment. To address these gaps, the team could collaborate with external experts in sustainability or offer training to existing staff members.
2. PRO-480: While the R&D department has an allocated budget for research and development, the targeted drug delivery system project may require additional funding. The team should consider applying for research grants, partnering with pharmaceutical companies, or exploring other funding opportunities to cover expenses related to research, development, and regulatory approval.

Who is missing which skills? Do we have relevant material?

Clear chat Ask me anything...

AI Copilot

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Which projects have potential synergies or overlapping goals?

- PRO-481 Sustainable packaging material
- PRO-485 Barrier material development

There is a project in the department, PRO-485, with potential synergies and overlapping goals with PRO-481.

PRO-485 objective is to develop a barrier material that prevents drug interaction and degradation while being compatible with sustainable and biodegradable packaging materials.

A person responsible for PRO-485 that you could reach out to is Dr. Karen Thompson, the Barrier Material Development Team Lead. Her expertise in materials science and drug packaging could provide valuable insights and foster collaboration between the two projects.

What synergies are there? Karen Thompson

Clear chat Ask me anything...

USE CASE 4

NLP search based on context and intent

- Search queries based on natural language, making advanced search capabilities accessible to everyone
- Understand the context and intent of search queries, providing more relevant results

AI Copilot

Greetings! I'm Zara, your research copilot. I can find experiments, assess risks, monitor ongoing projects, find new opportunities, and more.

Give me a list of experiments where we faced problems with Gibson Assembly Ultra Kit from Tonbo Biosciences

Below are 5 experiments that most relevant to your query.

- EXP-81 Novel Plant Hormone Signaling...
- EXP-31 Gene Knockout Efficiency in...
- EXP-95 Microbial Consortia Interactions
- EXP-41 Therapeutic Enzymes for Lyso...
- EXP-52 Molecular Mechanisms of Circ...

Let me know if you'd like to see more or click an experiment to ask me questions about it.

Clear chat Ask me anything...

AI Copilot

Greetings! I'm Zara, your research copilot. I can find experiments, assess risks, monitor ongoing projects, find new opportunities, and more.

Did any of our experiments investigate the role of gut microbiota in obesity and diabetes using metagenomic sequencing techniques?

Below are 5 experiments that most relevant to your query.

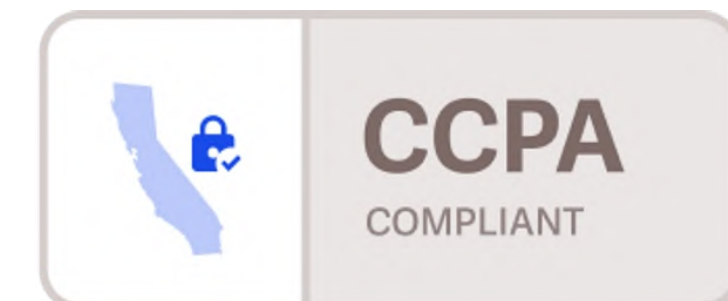
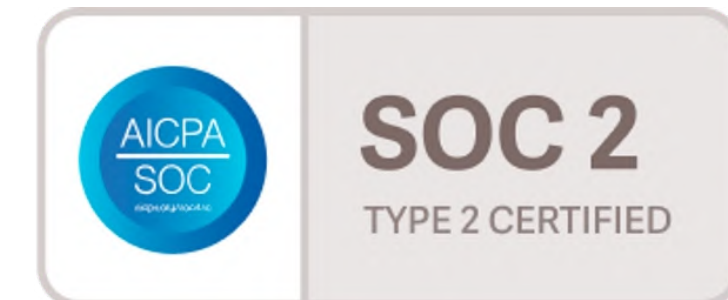
- EXP-105 Unraveling the Gut Microbiota's...
- EXP-62 Exploring the Influence of Gut...
- EXP-148 Gut Microbiota and Host Metab...
- EXP-77 Investigating the Impact of Prebi...
- EXP-89 Temporal Dynamics of Gut Micro...

Please let me know if you'd like to see more or click an experiment to ask me questions about it.

Clear chat Ask me anything...

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- SOC 2 Type 2 compliant



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