



**CureVac's mRNA based  
Vaccine Candidate against  
SARS-CoV-2**

Data update September 24th, 2020  
- STRICTLY CONFIDENTIAL -

## Project update: Recent Ph1 and hamster results are encouraging and dose escalation continues in order to select the final dose

### Previously shared, with data as of September 28<sup>th</sup>

CureVac's mRNA platform and pre-clinical data

CVnCoV Clinical Development Plan and available clinical data

Manufacturing footprint and delivery plan

CVnCoV presentation and target shelf-life at 2-8°C

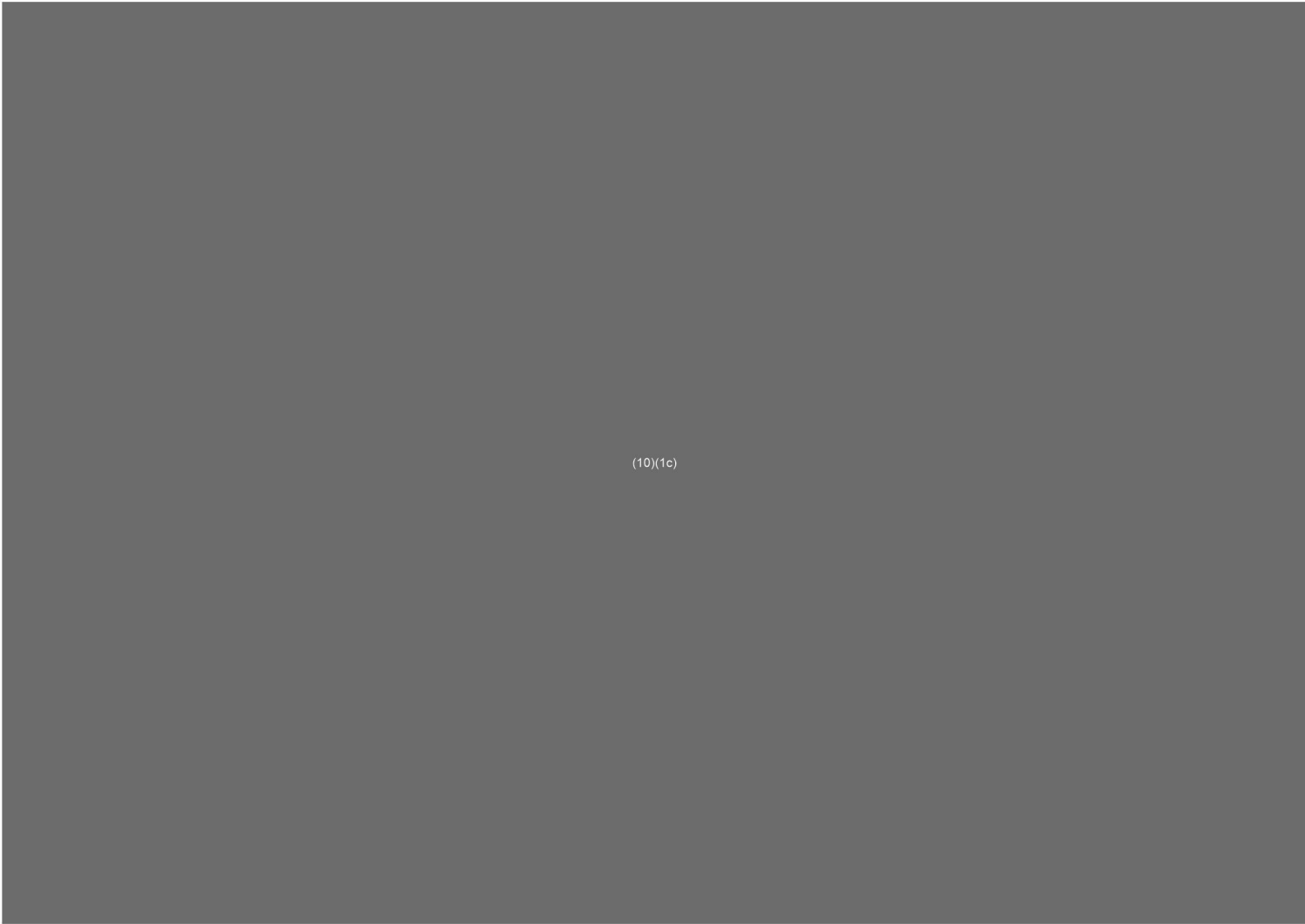
### Focus of today's update

1. Update on available Phase 1 data
  - Reactogenicity profile at higher doses
  - IgG titers at higher doses
  - VNTs across the dose range: methodology improvements suggest that dose should be at least 8µg, and require continuing exploration towards higher doses before final dose selection for pivotal trials
2. Hamster data suggest that CVnCoV has the potential to protect lung disease and reduce viral load in nose and throat
3. Clinical development plan supported by EMA feedback
4. Progress on manufacturing network and updated capacity estimates at higher doses

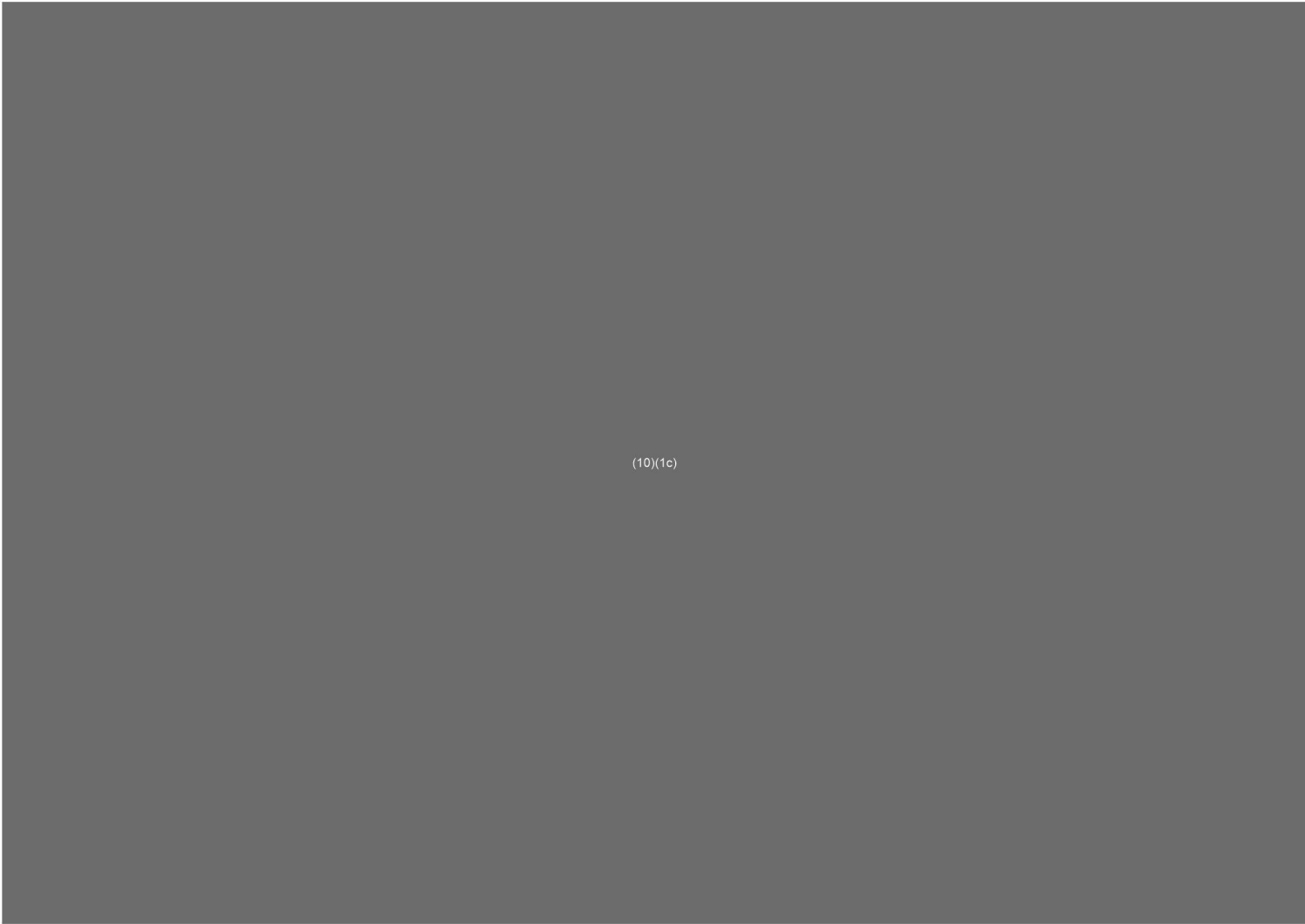




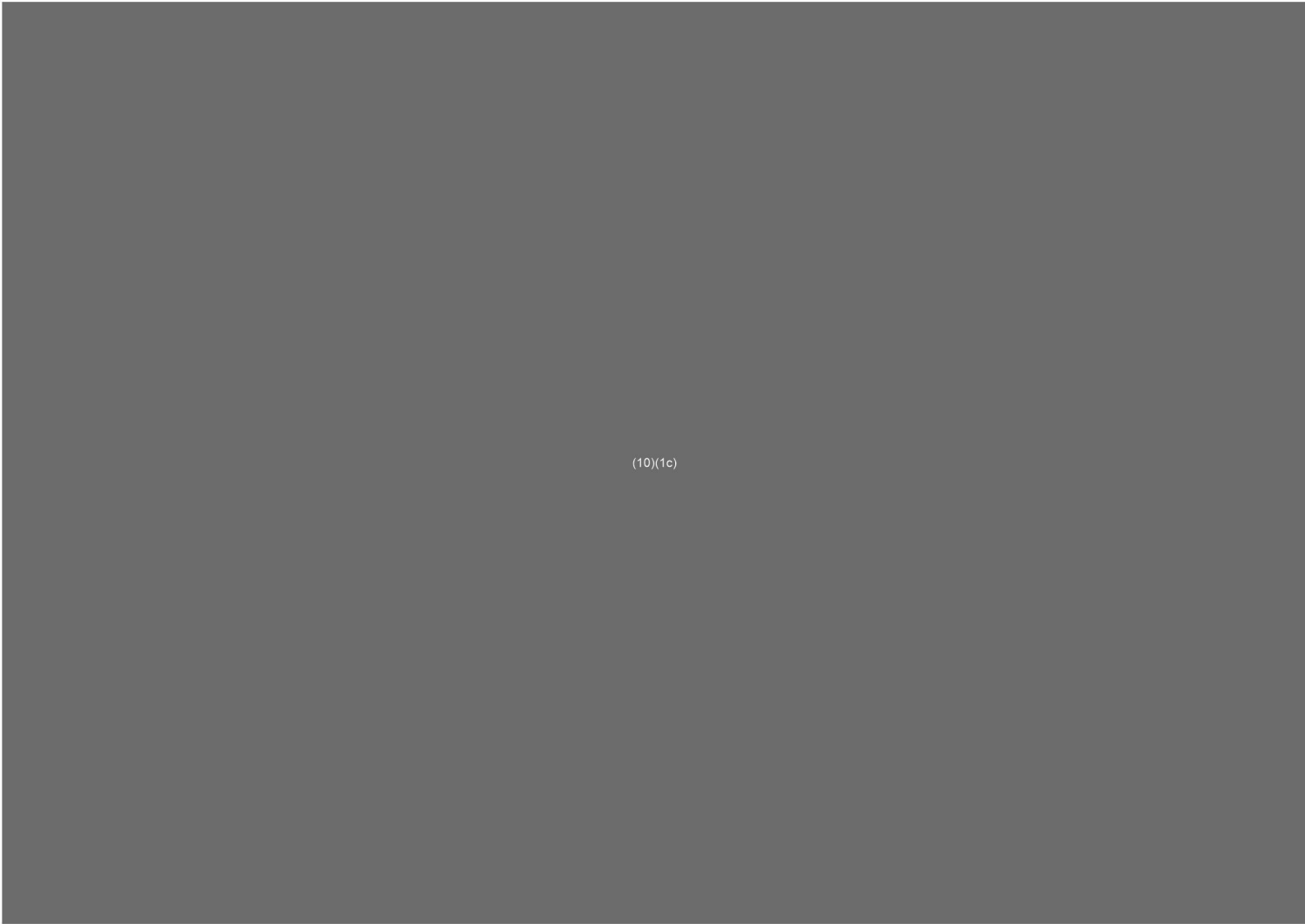
**1. Update on available Phase 1 clinical data: reactogenicity and immunogenicity**



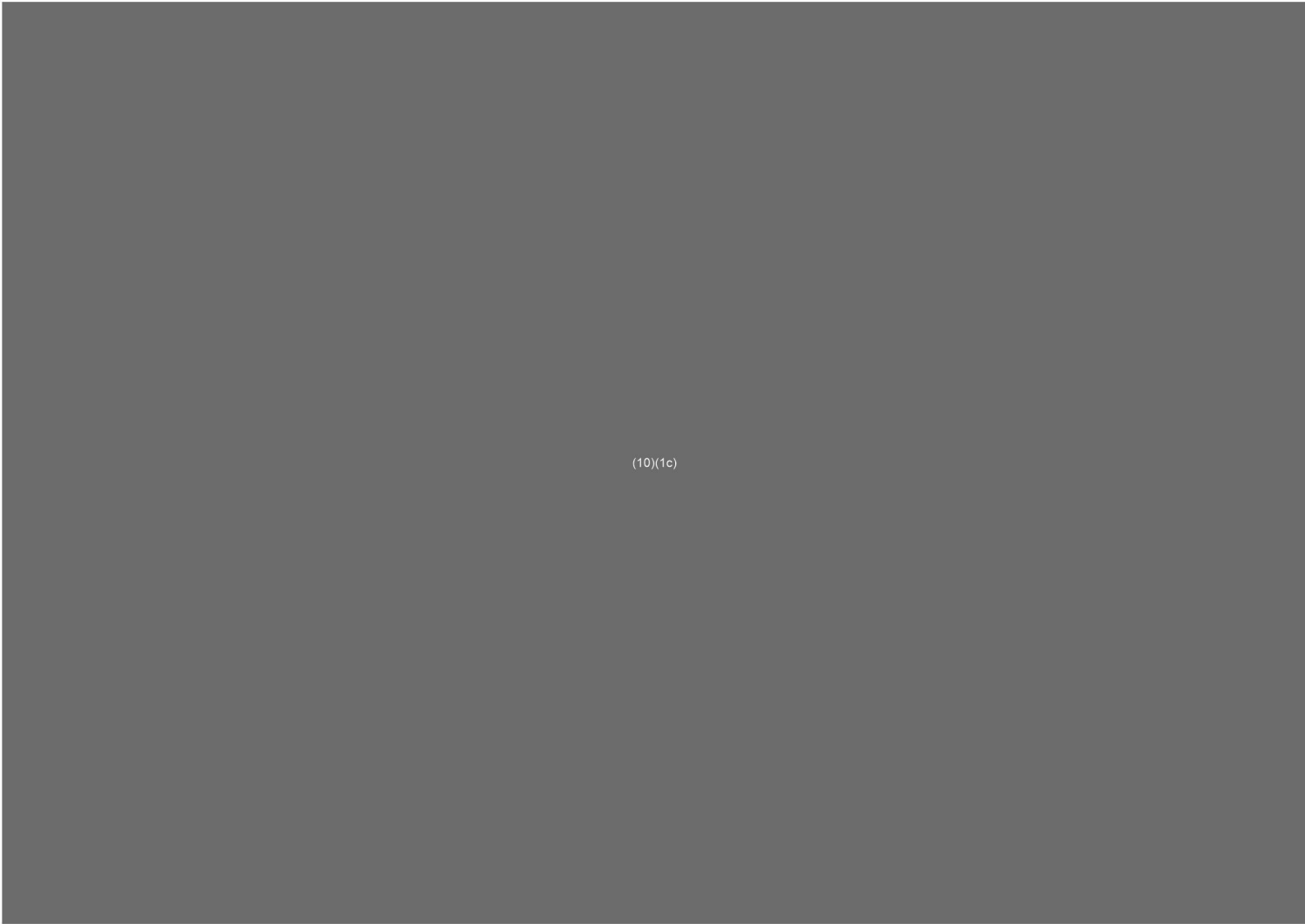
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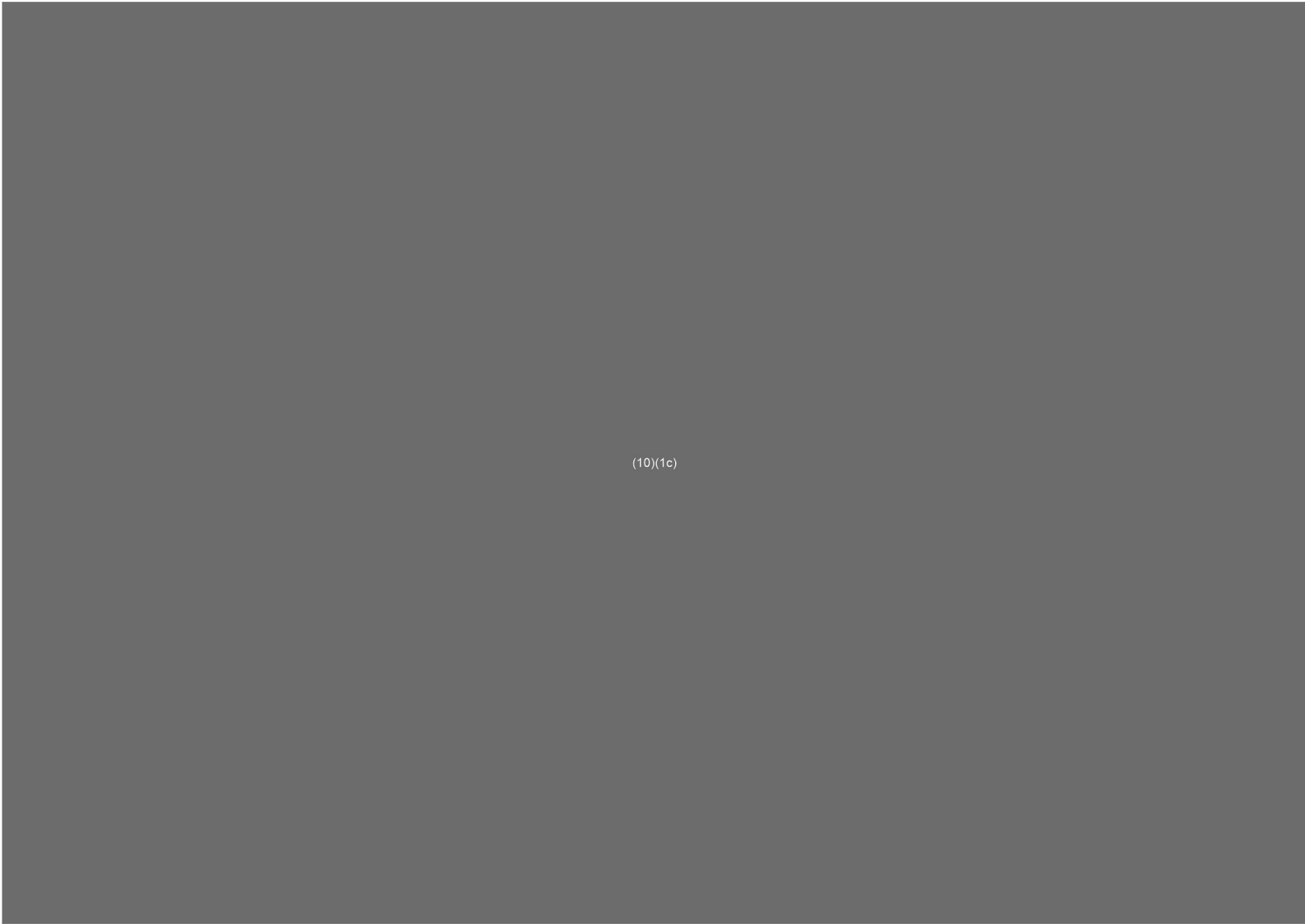
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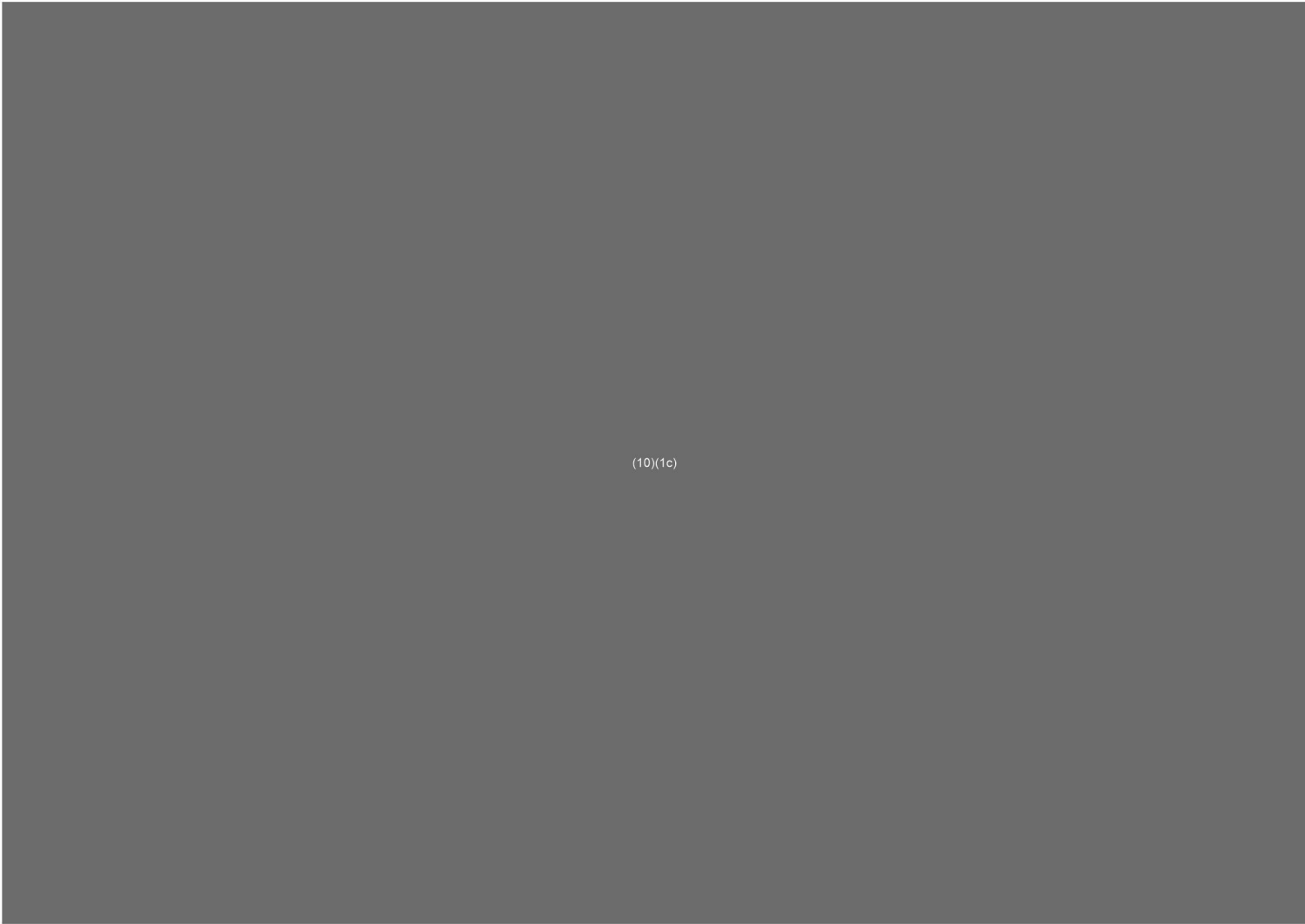
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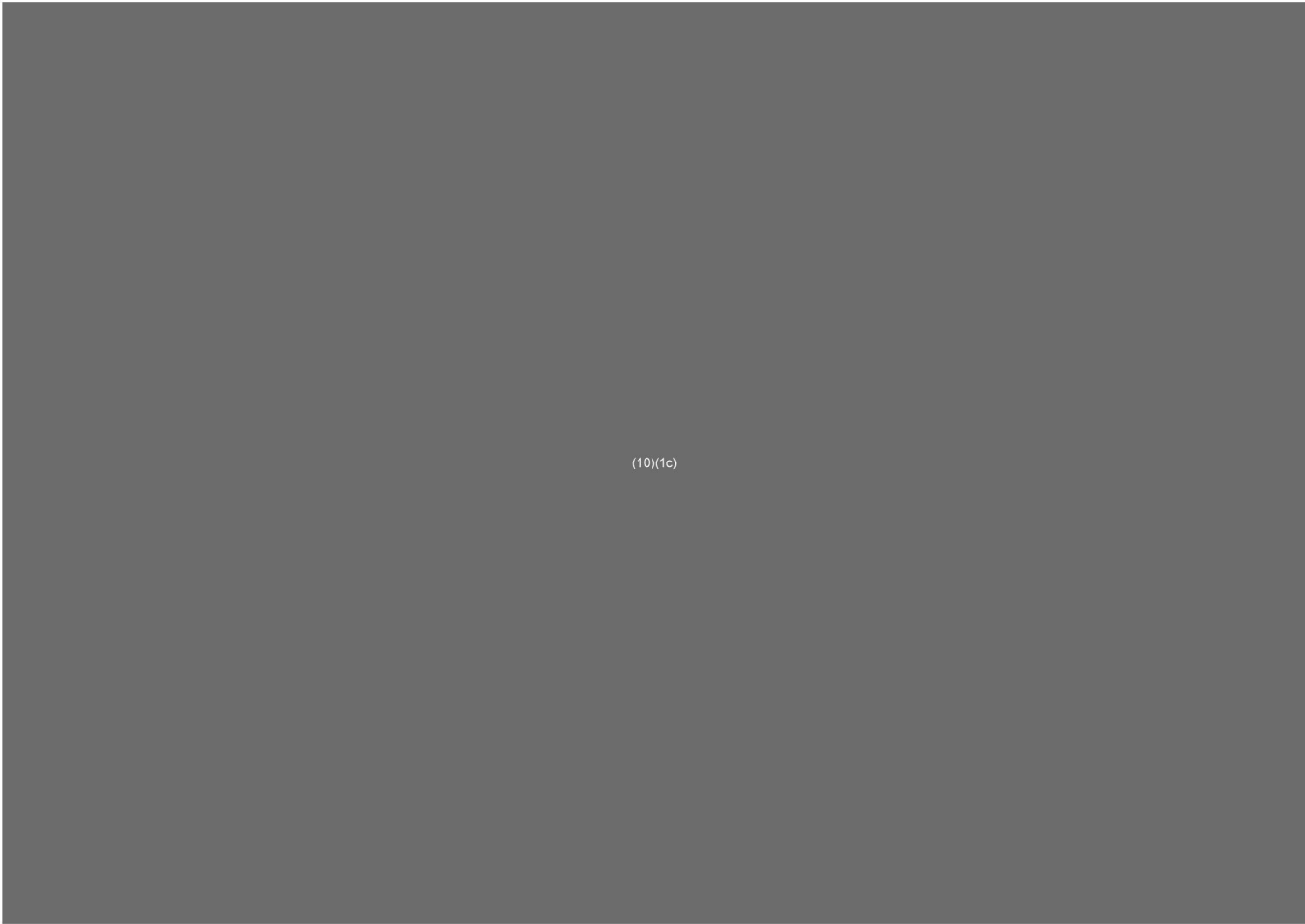
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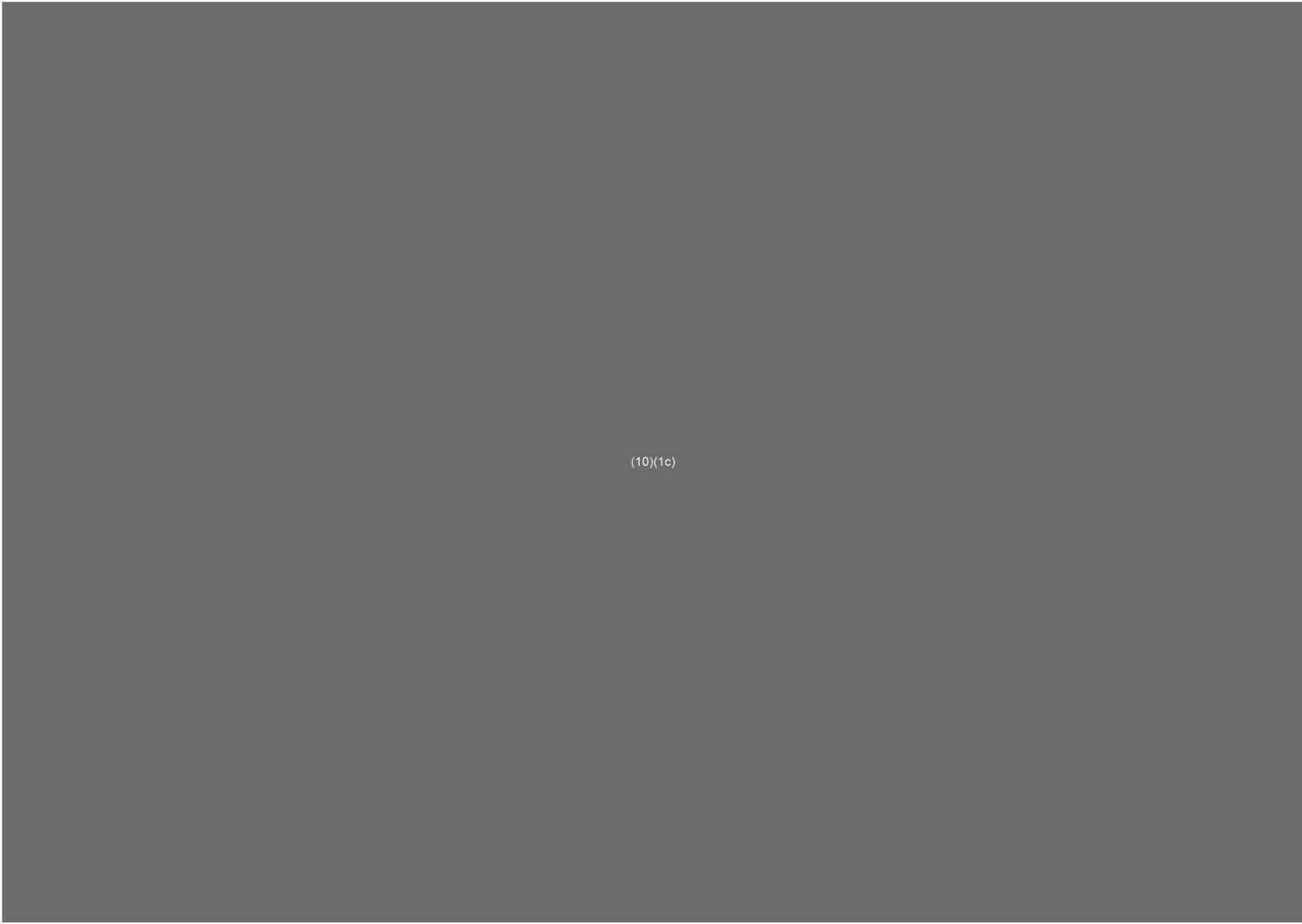
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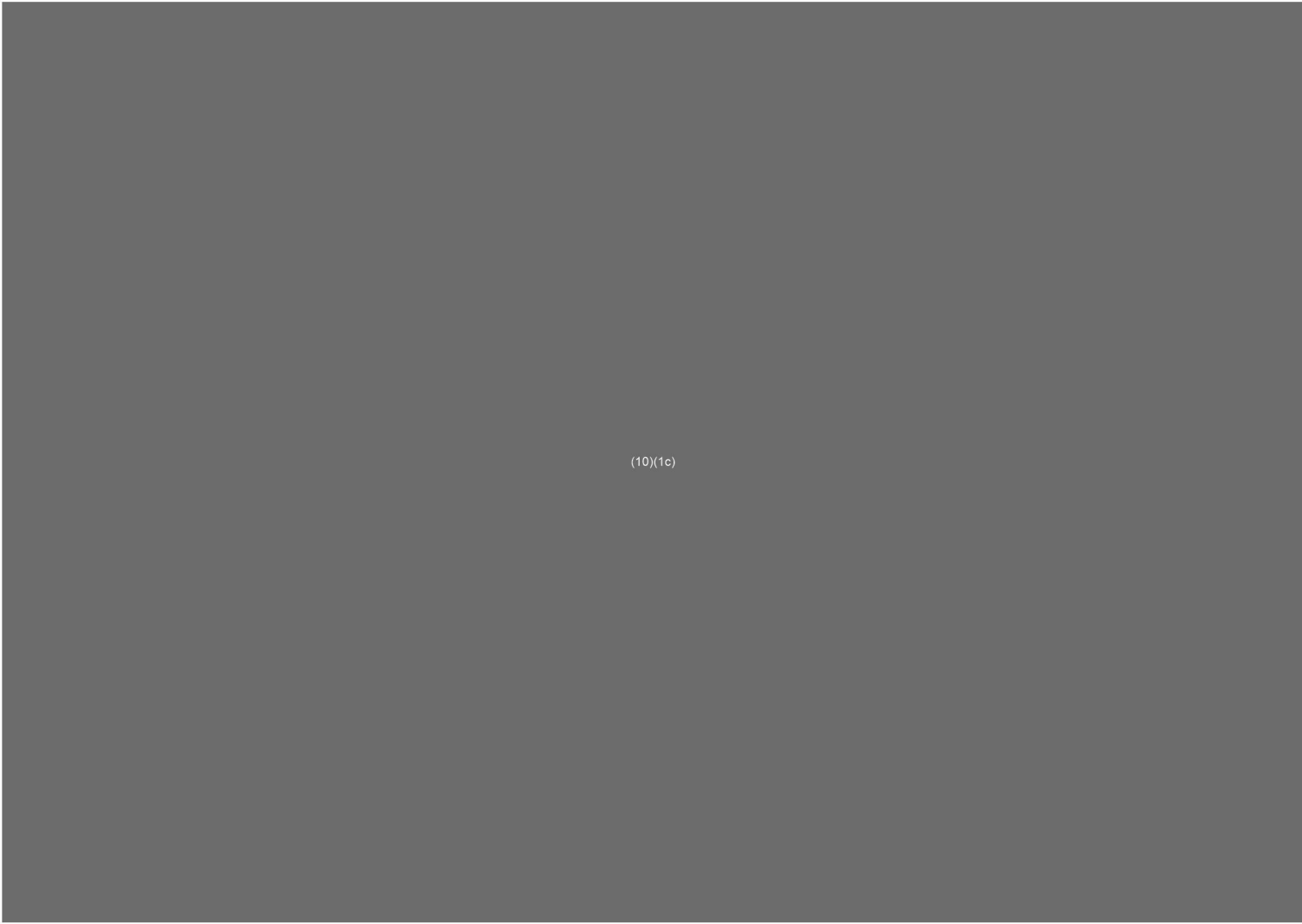
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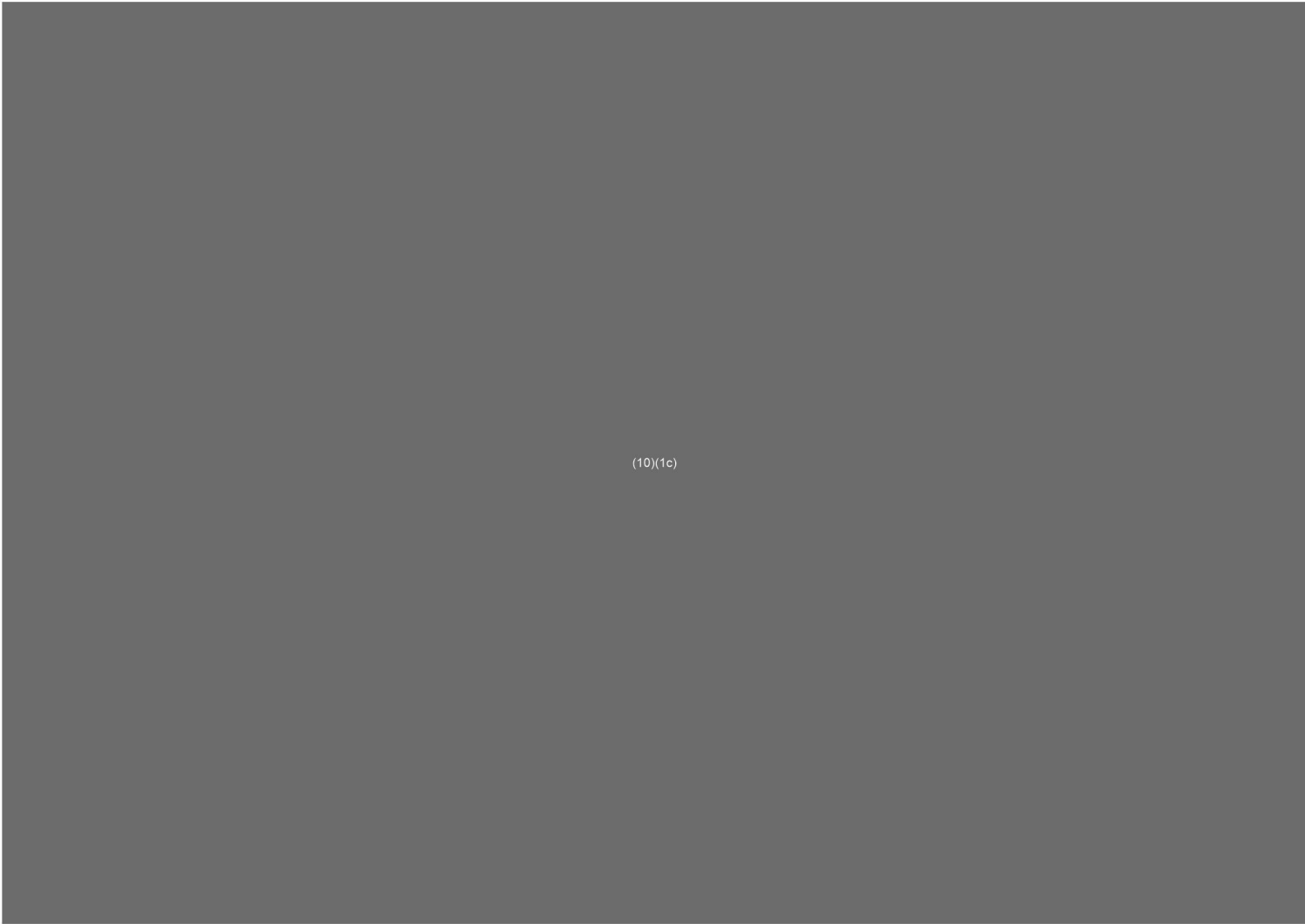
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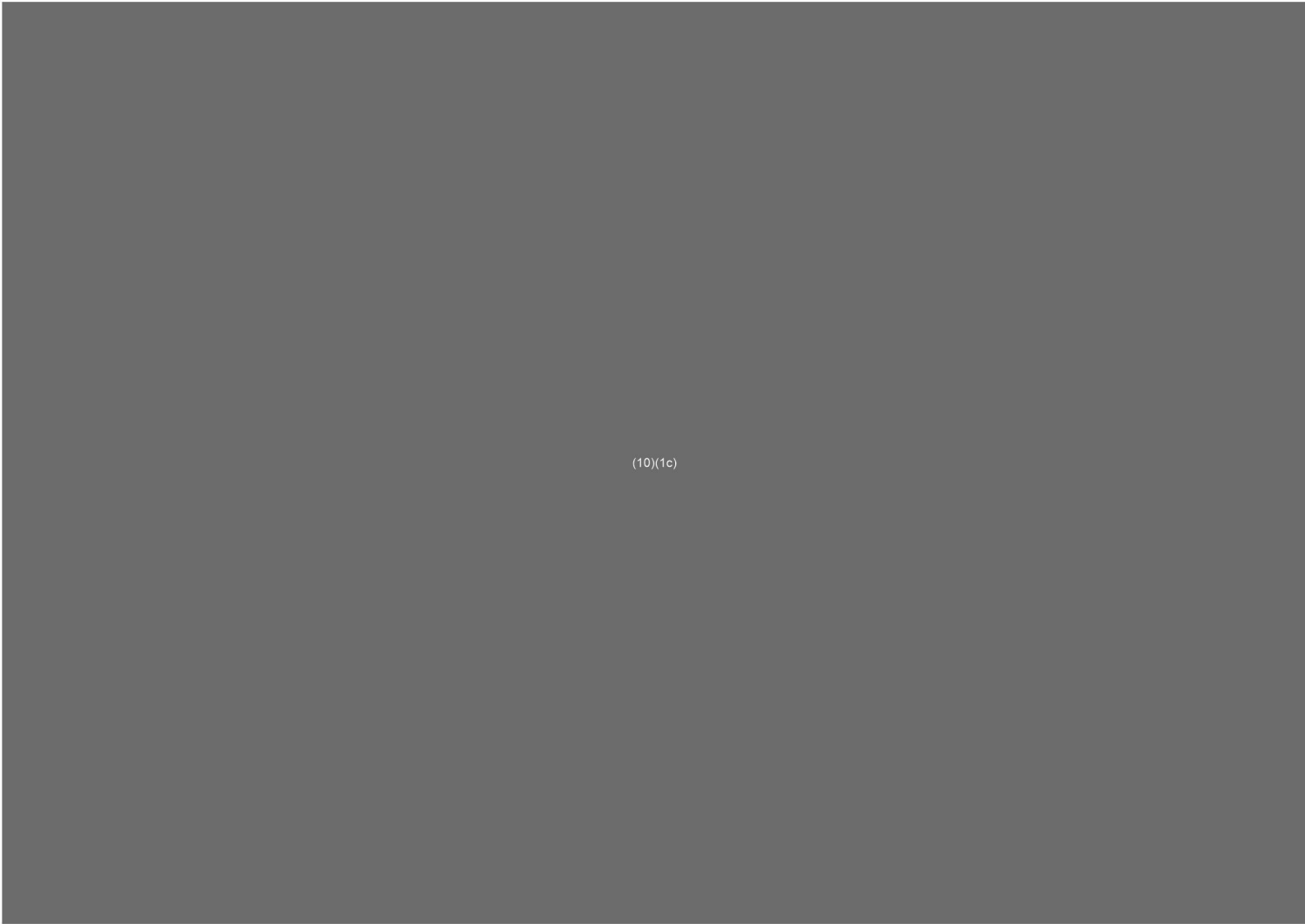
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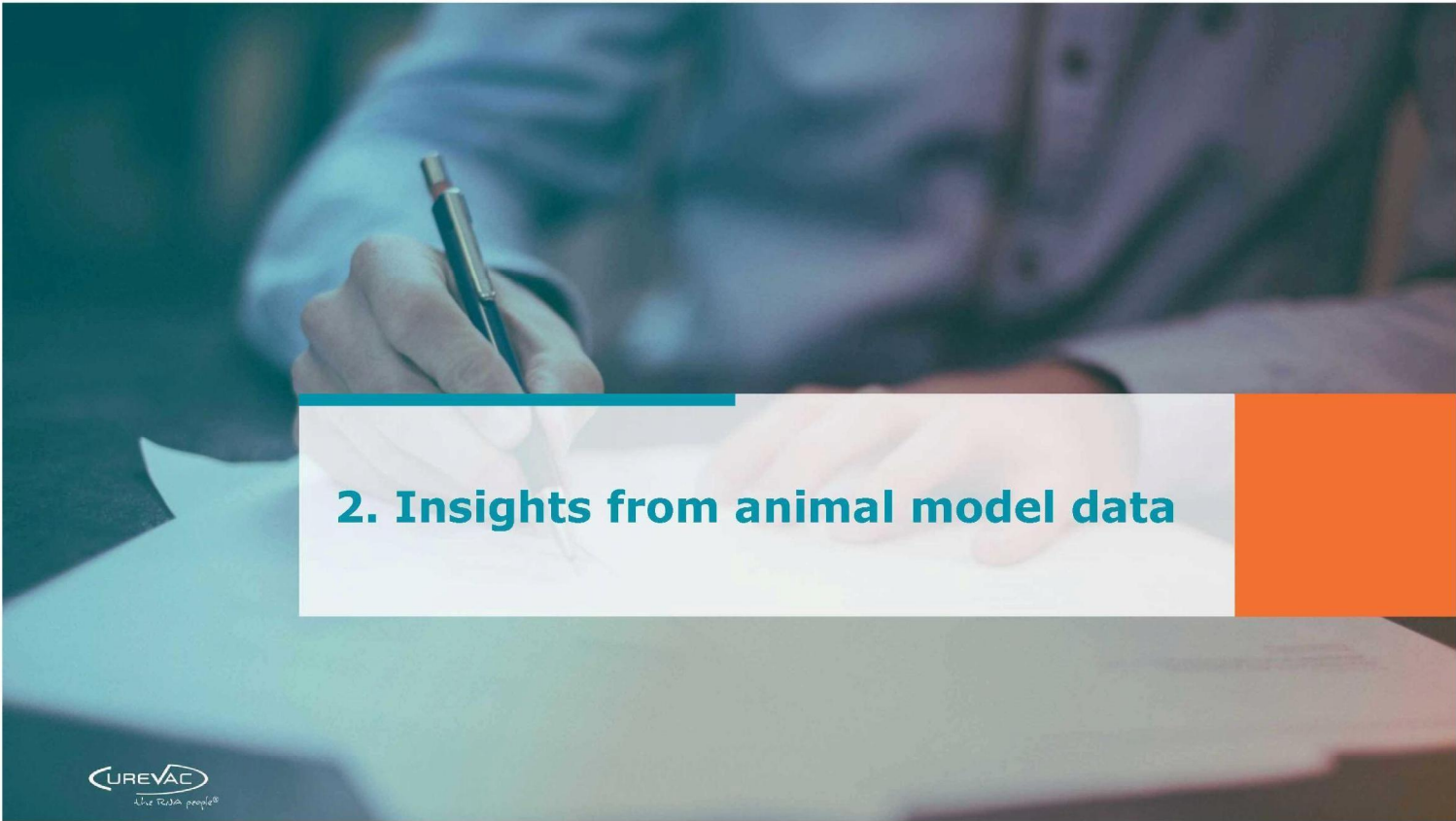
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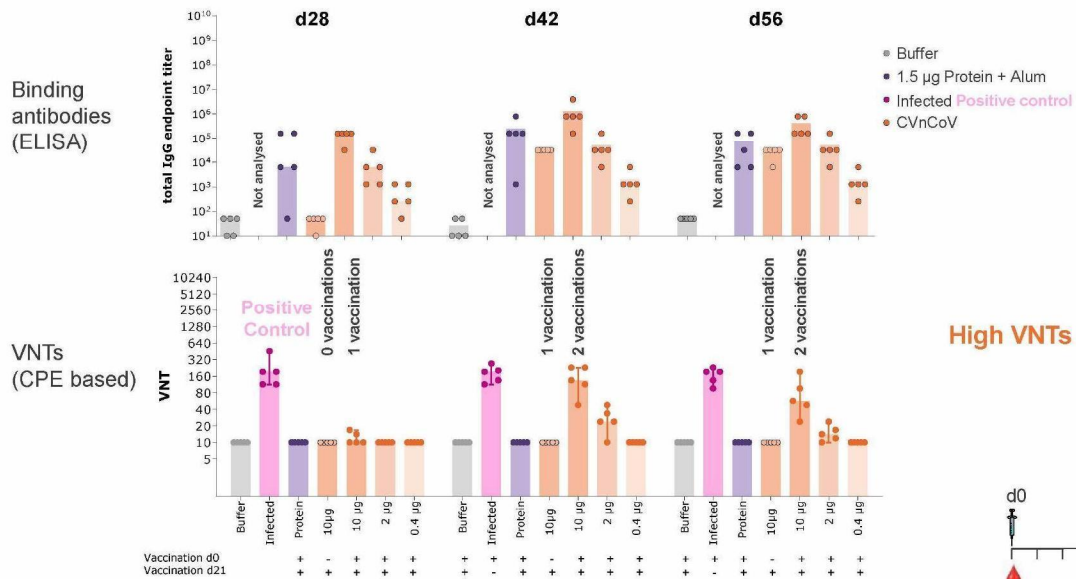


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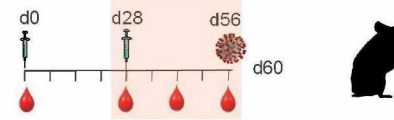


## 2. Insights from animal model data

# Hamster Challenge Model: ELISA responses are detectable after 1<sup>st</sup> dose and Virus Neutralizing Titers after 2<sup>nd</sup> dose in Hamsters



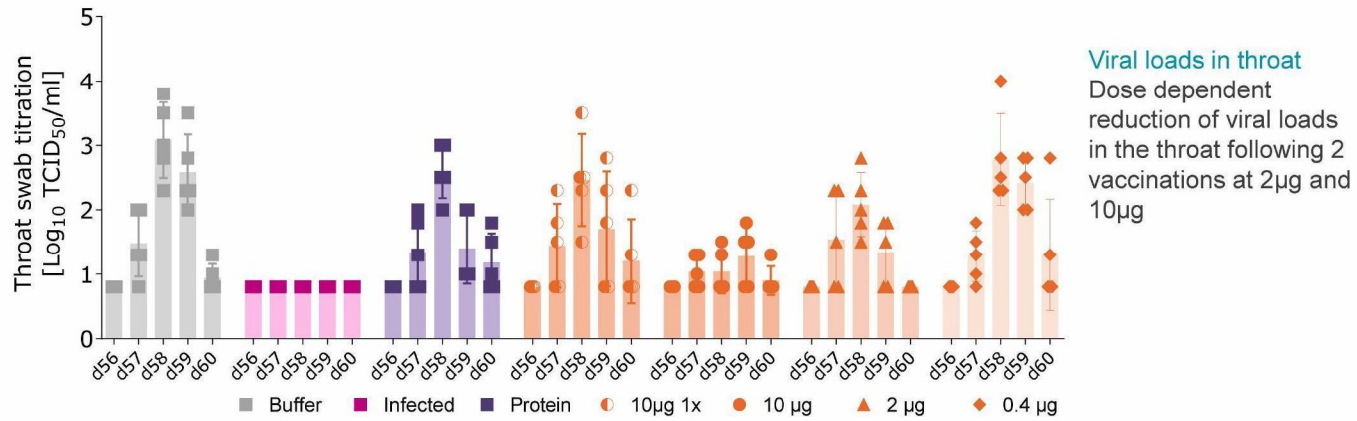
High VNTs after 2 vaccinations at 10 µg



Encoded protein: SARS-CoV-S full length K<sub>986</sub>P, V<sub>987</sub>P

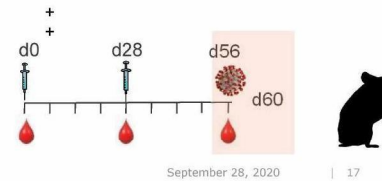
Evaluation: ELISA IgG & VNTs: Cytopathic effect (CPE) based microneutralization at Viroclinics

CVnCoV is able to decrease viral levels in the throat

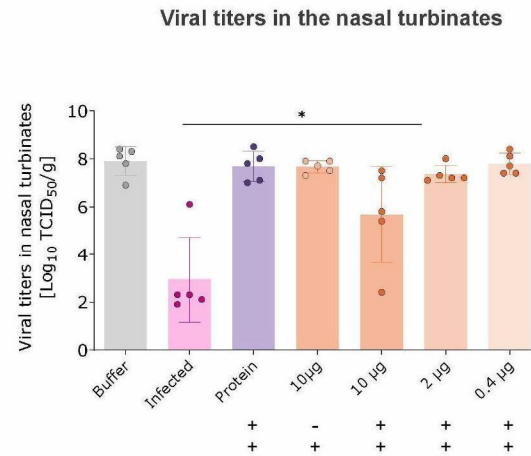
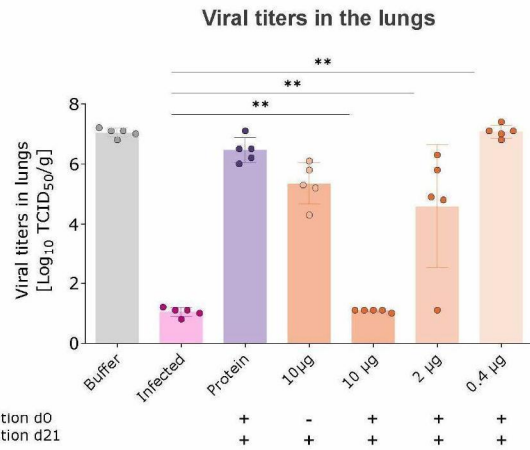


Vaccination d0  
Vaccination d28

Evaluation : live virus titration from throat swabs



## CVnCoV Provides Protection of the Lungs and Leads to Reduced Viral Titers in Nasal Turbinates

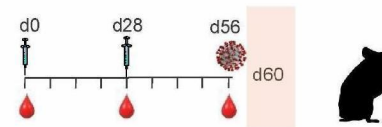


### Viral loads in lungs and nasal turbinates

All animals show protection of the lungs comparable to infected positive control at 10 µg

Trend for reduced nasal viral loads in 3 out of 5 animals at 10µg

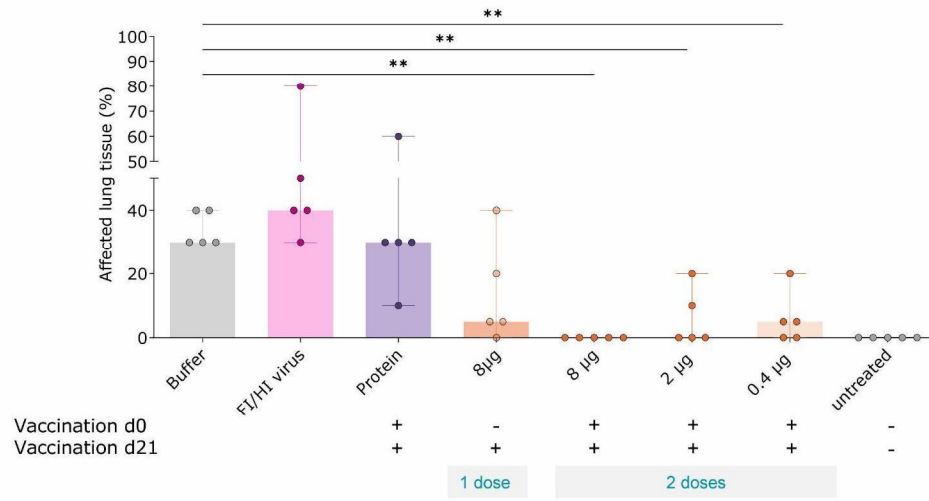
Evaluation: live virus titration from lung and nasal turbinates homogenates



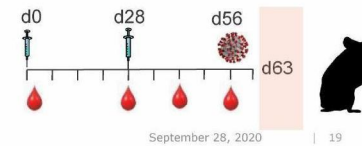
## Lung Protection of CVnCoV - Reduced Percentage of Affected Lung Tissue Upon Challenge Infection



Gross lung pathology at day 7 after challenge  
% affected lung pathology



Lung protection - no evidence of Enhanced Disease: Reduced gross lung pathology compared to the control groups





**3. Clinical development plan supported by EMA feedback**

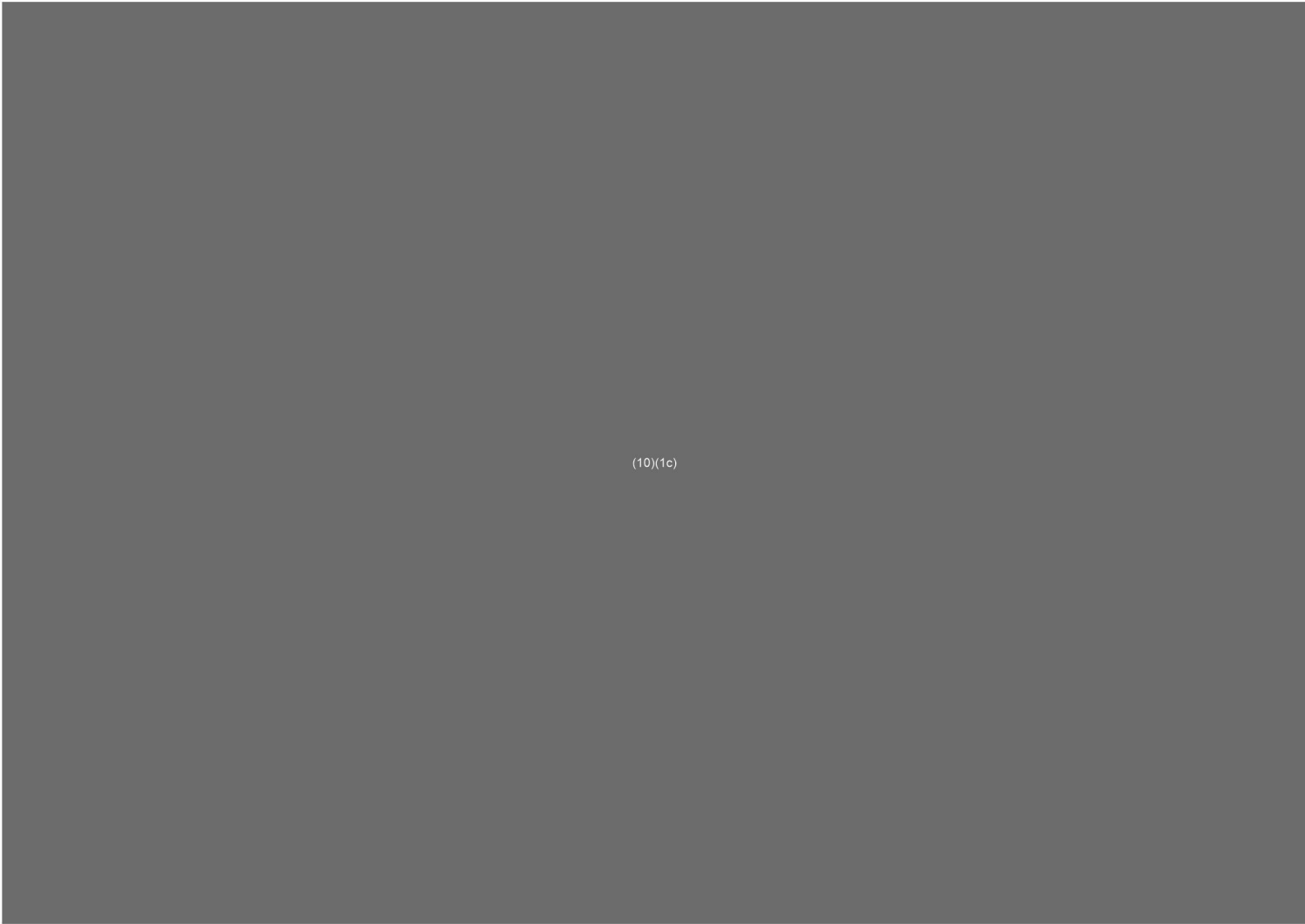
## CVnCoV - Progress and path towards EMA approval

- ✓ **Jan 2020** **Design** of multiple vaccine candidates
- ✓ **Mar 2020** Lead candidate **selection** out of several candidates
- ✓ **Jun 2020** **GMP production** of lead candidate
- ✓ **Jun 2020** CTA approval and **start of Phase 1** clinical trial
- ✓ **Aug 2020** **CTA approval of Phase 2a** clinical trial in older adults
- Oct 2020** **Ph1 data** (safety and immunogenicity) - **final dose selection**
- Oct 2020** **CTA submission for Phase 2b/3**
- Q1 2021** **EMA submission** based on safety (n~3,500), immunogenicity and preliminary efficacy.
- Q1/2 2021** Projected **Conditional Marketing Approval** (EMA)
- Q3/4 2021** Projected **Full Marketing Approval** (EMA)

+1 month if  
need to  
increase to  
16µg or  
20µg



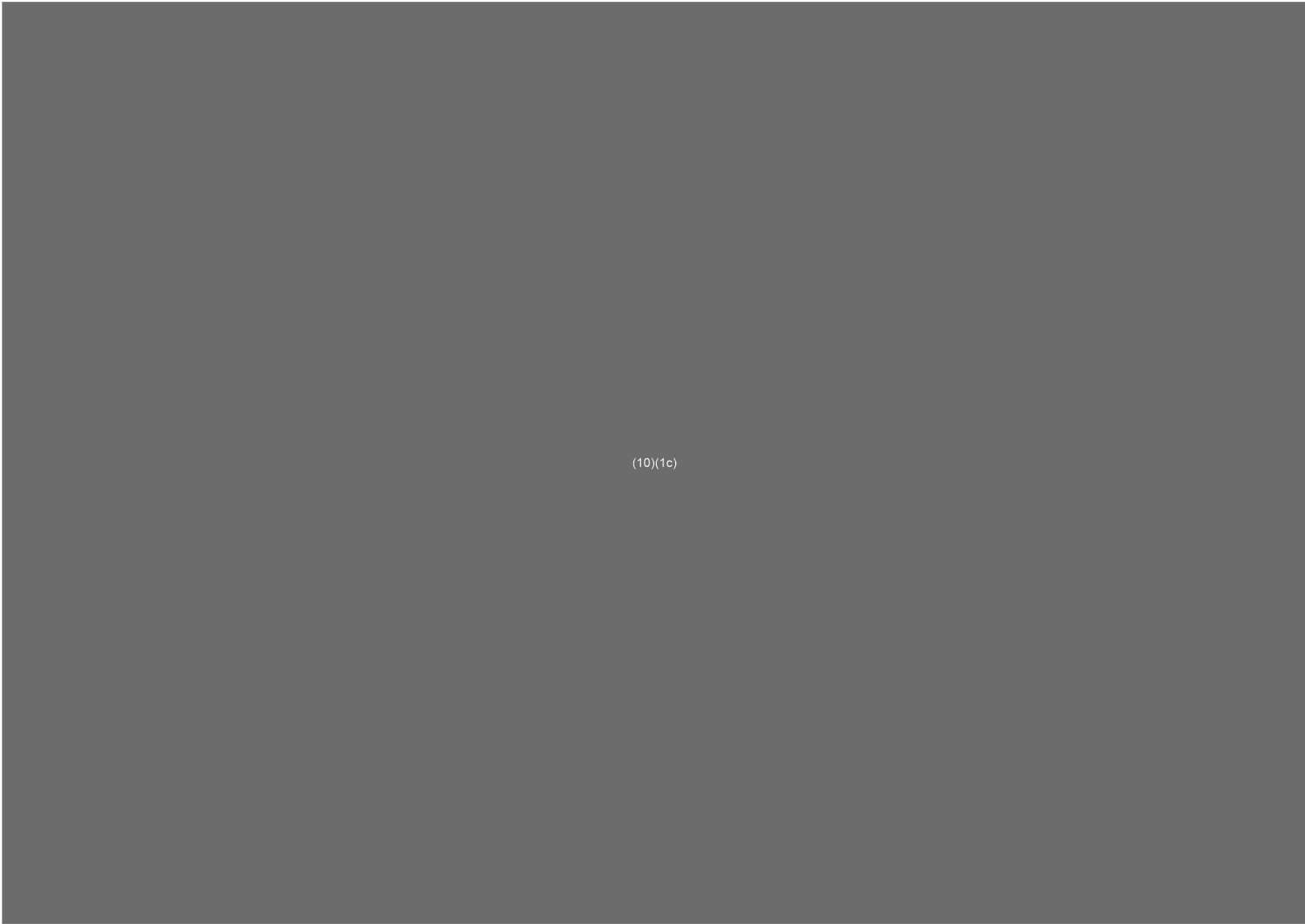
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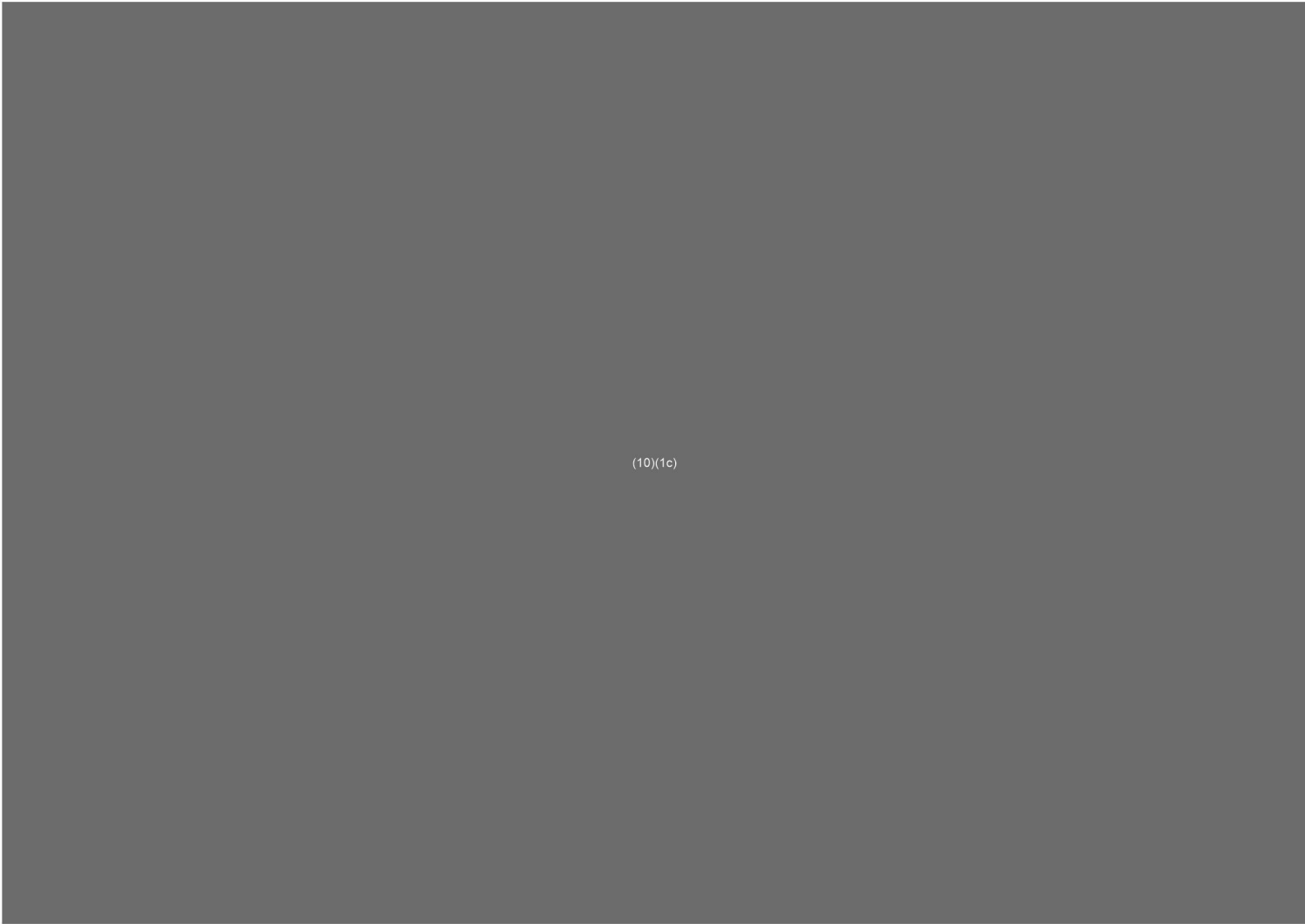
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**5. Progress on manufacturing network and updated capacity estimates**



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