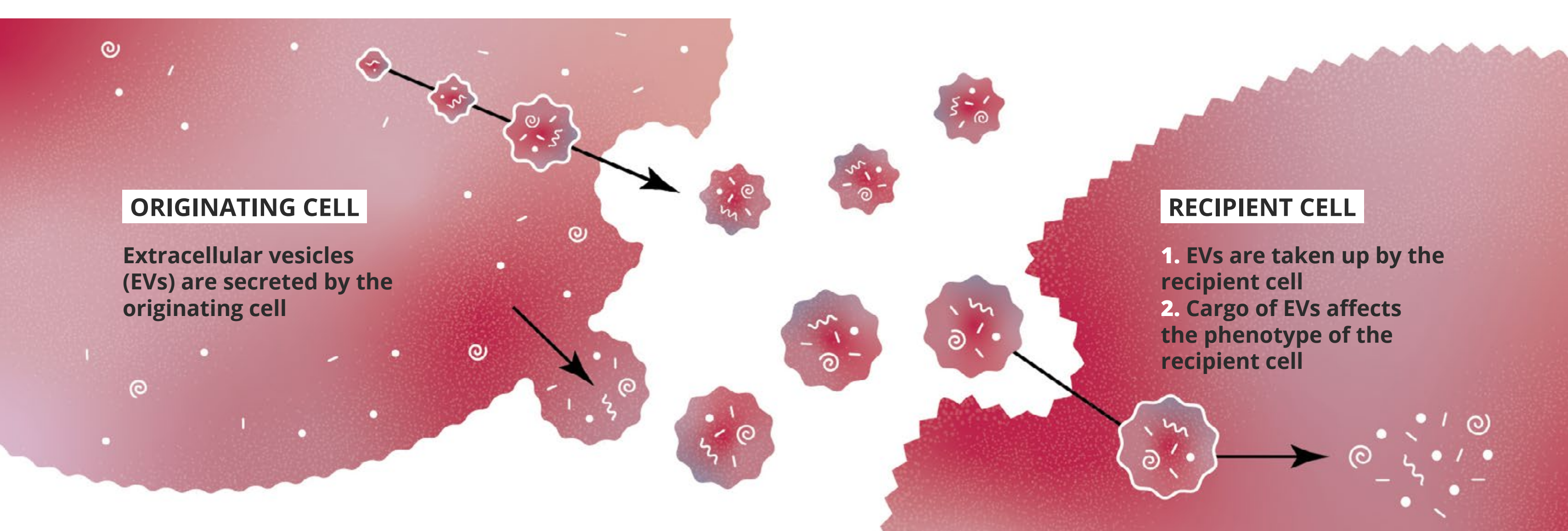


# Extracellular vesicles in patients in the acute phase of psychosis and after clinical improvement: an explorative study

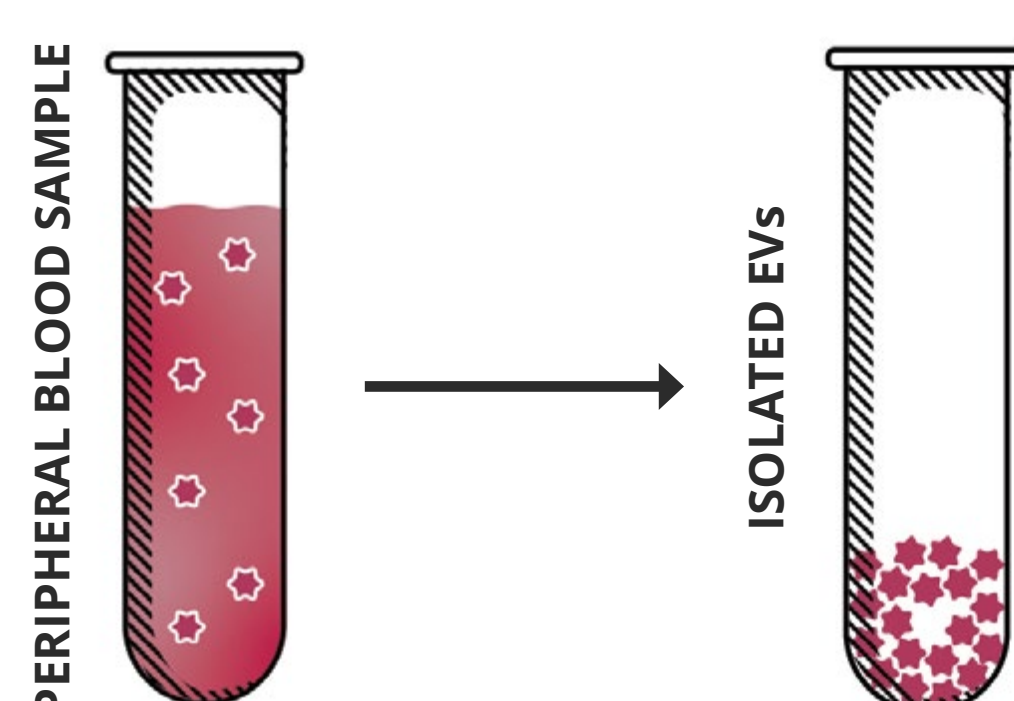
## BACKGROUND

**Extracellular vesicles (EVs) are secreted by most cells.** They carry proteins, lipids and nucleotides that can change the phenotype of recipient cells. As the content of EVs reflect the status of the originating cell, EVs can have potential as biomarkers. **Identifying EVs**, including their cells of origin and their cargo, **may provide insights in the pathophysiology of psychosis.**

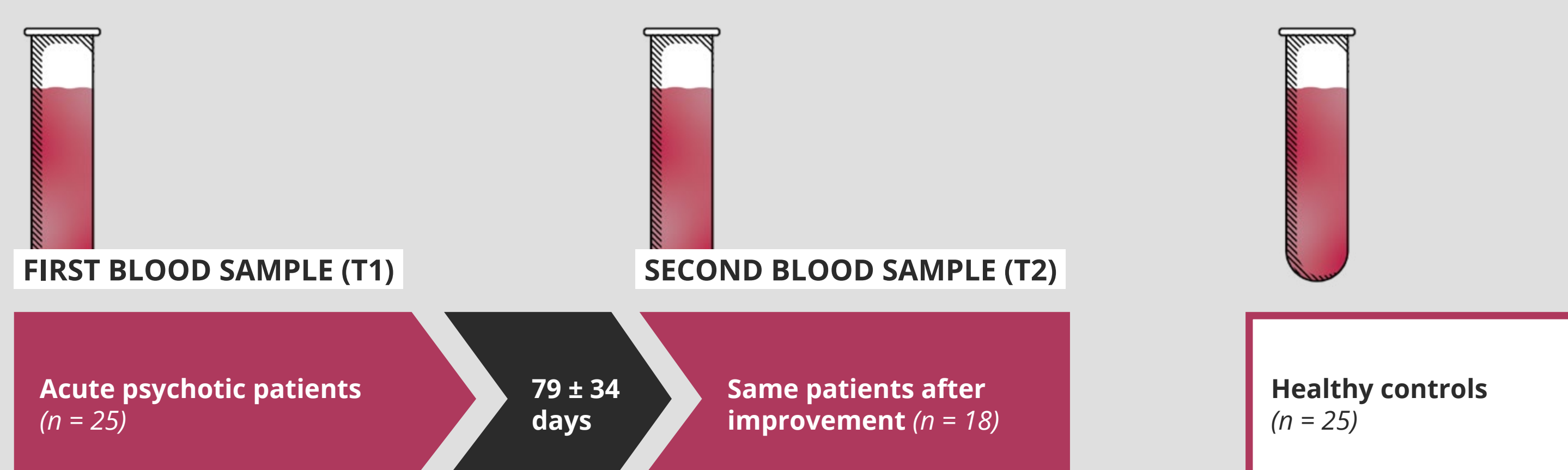


## METHODS

Here, we present a characterization and proteomic **analysis of EVs from peripheral blood in patients (n=25) during and after the acute phase of psychosis.**

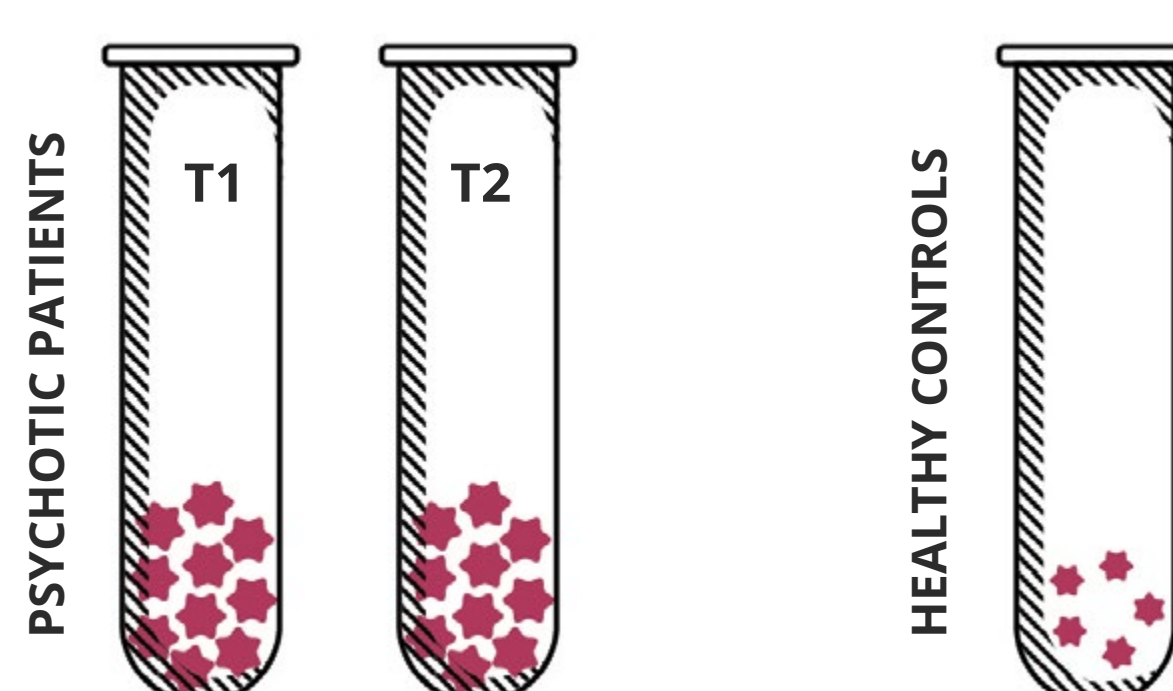


## STUDY DESIGN



## MAIN FINDINGS

**1** Psychotic patients had approximately twice the concentrations of EVs as healthy controls. EVs were also larger in psychotic patients.



**2** Brain-specific proteins were identified in EVs, indicating that **EVs might serve as a liquid brain biopsy.**

**3** **Five brain related proteins** - all involved in regulation of glutamatergic synapses - **distinguished psychotic patients from healthy controls.**

**4** Gene ontology (GO) analyses confirm EV origin and reveal differences between patients and controls in several GO categories.

## CONCLUSIONS

Our results show that peripheral EVs in psychotic patients are different from those in healthy controls and point at alterations in the glutamatergic system. **We suggest that EVs allow investigation of blood-borne brain-originating biological material and that their role as biomarkers in patients with psychotic disorders is worthy of further exploration.**