



## Outline of Research

We develop new protein function analysis technologies and thereby search for and discover factors that contribute to the study of novel agronomic traits and mankind. Since regulation of protein-molecule interactions leads to biological system control (e.g., creation of disease-resistant plants, root cure of lifestyle-related diseases), elucidation of the functions of these factors is attracting attention in the fields of agriculture and disease treatment.

## Background

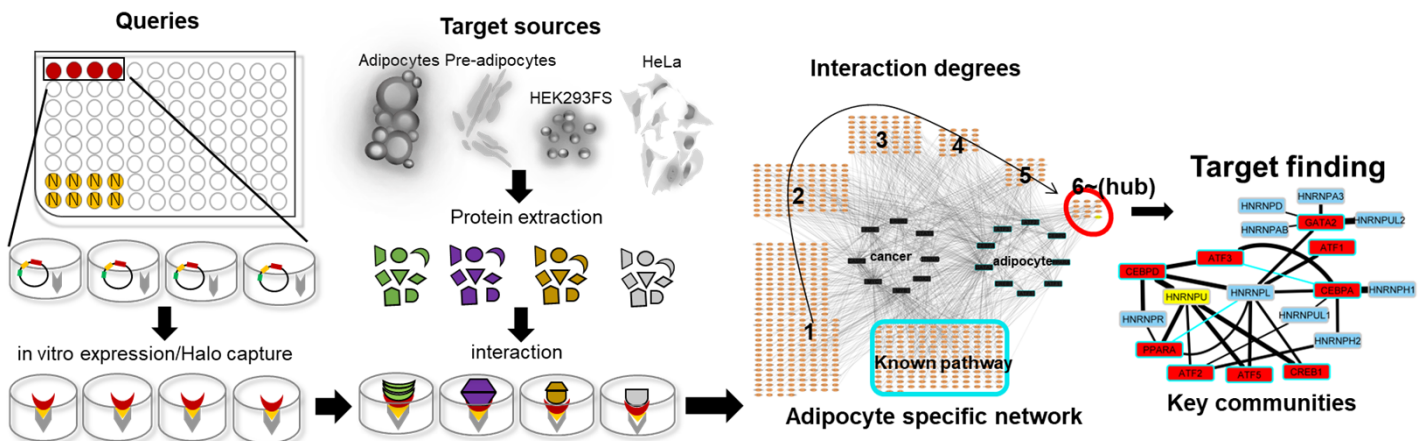
New agronomic traits, breeding targets, and drug discovery targets are being exhausted. The development of novel screening technologies will enable the search for unknown targets and rescue the depletion situation.

## Objectives

To develop new genome analysis technologies to enable the discovery of new agronomic traits and drug targets that have never been discovered before.

## Main Achievements

1. New technology, protein barcode method, was developed and contributed to the very early detection of pemphigus, a type of skin diseases.
2. New technology, in situ protein array method, was developed to discover and elucidate the functions of hormone receptors and hub proteins involved in disease resistance.
3. We developed a new technology, rapid immunoprecipitation-mass spectrometry, and discovered influencer proteins in a network that exist only in adipocytes. We are currently analyzing the function of the influencer.



## Prospects for Collaboration

### [Cooperation with Medical Testing and Seed Breeding]

Early diagnosis of various cases by protein barcode methods, Cross-reactivity testing of antibodies (influenza, corona) by in situ protein array methods. High-speed immunoprecipitation-mass spectrometry to search for and provide influencers in plant protein networks.

[Cooperation with agriculture] We would like to use protein social network maps to create crops that are tolerant to environmental stresses and useful plants with high market value, and to identify drug targets.



## Points of appeal

We have a proven track of not only developing technologies, but also actually "finding" and "phenotyping/inspecting" with those technologies.