



## Press Release

### Cellzome and EMBL scientists publish the first genome-wide survey of protein complexes

**Heidelberg, 20<sup>th</sup> January 2006** - Cellzome and the European Molecular Biology Laboratory (EMBL) announced today the publication of the first genome-wide screen for protein complexes. The article<sup>1</sup> "Proteome survey reveals modularity of the yeast cell machinery" will appear on 22 January in the on-line version of Nature, one of the leading scientific journals.

The paper describes the characterization of nearly 500 protein complexes (the molecular machines of a cell) in the model organism, *S. cerevisiae*. Over 50% of these complexes are novel and have not been described before. The completeness and robustness of the Cellzome data set allows the definition of these complexes and shows their dynamic nature, utilizing computational tools developed at EMBL. The researchers have demonstrated how proteins are organized into core complexes, which recruit other specific proteins dynamically to refine their function, for example in response to external signals, or in different stages of the cell cycle.

The understanding of how proteins come together to form these protein complexes, and on a higher level, how complexes assemble to regulate protein pathways, will potentially enable the elucidation of the molecular basis of health and disease and the identification of the most appropriate targets for drug discovery in these pathways.

Tim Edwards, CEO of Cellzome said: "I am very proud of our team of scientists and their colleagues at the EMBL. This has been a very fruitful collaboration and the publication in Nature demonstrates the quality of our pathway work."

Rob Russell, Group Leader at EMBL said: "Cellzome certainly has generated a data set of outstanding quality - enabling us to develop and exercise the right computational tools to discover new complexes and define their modular nature. It has been a pleasure to work with Cellzome on this exciting project."

In previous work published in Nature and Nature Cell Biology, Cellzome reported the maps of protein complexes<sup>2</sup> and pathways<sup>3</sup>, most notably the pro-inflammatory Tumor Necrosis Factor alpha (TNF $\alpha$ ) signaling pathway.

Cellzome is also applying this technology in a broad collaboration with Novartis for the charting of the physical and functional protein maps of key cellular pathways for the development of new drug candidates.

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### **About Cellzome Inc.**

Cellzome is a drug discovery company with world-class, proprietary proteomics technology for target and lead identification, and a drug discovery programme in Alzheimer's disease. The technology provides molecular understanding of disease and helps to identify the role of active compounds and their possible side effects, and thus provides insight into how potential drugs might behave in man.

Cellzome's strategy is to commercialise its technology through building its own pipeline of clinical products and through collaboration with leading pharmaceutical partners. To date it has signed such collaborations with Bayer HealthCare, Johnson & Johnson Pharmaceutical Research & Development (J&JPRD), a large pan-therapeutic collaboration with Novartis and, a drug discovery collaboration in Alzheimer's disease with Ortho-McNeil Pharmaceutical and J&JPRD.

Cellzome's holding company is domiciled in the US and employs about 75 people across its two operating subsidiaries in Cambridge, UK and Heidelberg, Germany. To learn more about Cellzome, please visit the website: [www.cellzome.com](http://www.cellzome.com)

### **About EMBL**

The European Molecular Biology Laboratory is a non-profit organisation and a basic research institute funded by public research monies from 18 member states. Research at EMBL is conducted by approx. 80 independent groups covering the spectrum of molecular biology. The Laboratory has five units: the main Laboratory in Heidelberg, and Outstations in Hinxton [the European Bioinformatics Institute], Grenoble, Hamburg, and Monterotondo near Rome.

The cornerstones of EMBL's mission are: to perform basic research in molecular biology, to train scientists, students and visitors at all levels, to offer vital services to scientists in the member states, and to develop new instruments and methods in the life sciences.

EMBL's international PhD Programme has a student body of about 170. The Laboratory also sponsors an active Science and Society programme. Visitors from the press and public are welcome.

### References:

- 1 A.C. Gavin, P. Aloy, et al. "Proteome Survey Reveals Modularity of the Yeast Cell Machinery." Nature, online publication 22 January 2006
- 2 A.C. Gavin, et al. "A Functional Organization of the Yeast Proteome by Systematic Analysis of Protein Complexes. Nature 415, January 2002
- 3 T. Bouwmeester, et al. "A physical and functional map of the human TNF- $\alpha$ /NF- $\kappa$ B signal transduction pathway. Nature Cell Biology 6, February 2004