Monoclonal Antibody and Its Therapeutic Approach

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There are a number of targeted therapies currently on the market for cancer. Genentech's Herceptin, a monoclonal antibody used in breast cancer patients overexpressing HER-2 neu oncogenes, represents one of the first and most successful drugs utilizing early genomics technology. Others include Novartis' Gleevec and Millennium's Campath.

The advance in cancer genomic technologies in recent years has resulted in an exponential increase in the number of potential genes and proteins available for pharmaceutical research development. The eventual maturation of genomics technology is expected to more quickly introduce increased numbers of new and more efficacious cancer drugs into the market at lower development cost.

Antibodies are highly specific and can therefore bind and affect disease-specific targets, thereby sparing normal cells, and causing fewer toxic side-effects than cytotoxic chemotherapies. Technological developments have enabled us to produce fully human antibodies from either transgenic mice or a human antibody phage display library.

In this presentation, we will discuss human antibody scFv library and genome expression databases (DB) for major human cancers to develop therapeutic antibodies.