

Market Trends in the Stem Cells Space

Authored By: Enal Razvi, Ph.D. Biotechnology Industry Analyst. Fremont, California, USA.
E-mail: erazvi@earthlink.net

Abstract

In this article, we present and discuss some recent market analyses we have performed as part of our continuing industry coverage of the stem cells marketplace. Our approach to analyzing the marketplace involves primary market surveys performed online—these market surveys allow us to address a large potential audience not otherwise addressable. This audience is global in that our surveys address participants in North America, UK/Western Europe, and Asia/Pacific Rim. Finally, our market surveys bring out both qualitative and quantitative market parameters and allow us to spot trends existing in the broad marketplace. Detailed market analysis of the stem cells space with a complete picture of the companies in the market—worldwide—together with qualitative and quantitative market survey data is presented in our Stem Cells 2007 Industry Analysis Report—more details about this report can be found at:

<http://www.selectbiosciences.com/marketreports/stemcells2007.aspx>

Keywords

Stem Cells • Stem Cells Marketplace • Embryonic Stem Cells (ESCs) • Adult Stem Cells (ASCs) • Cord Blood Stem Cells • Market Analysis • Market Opportunity • Market Surveys • Market Parameters

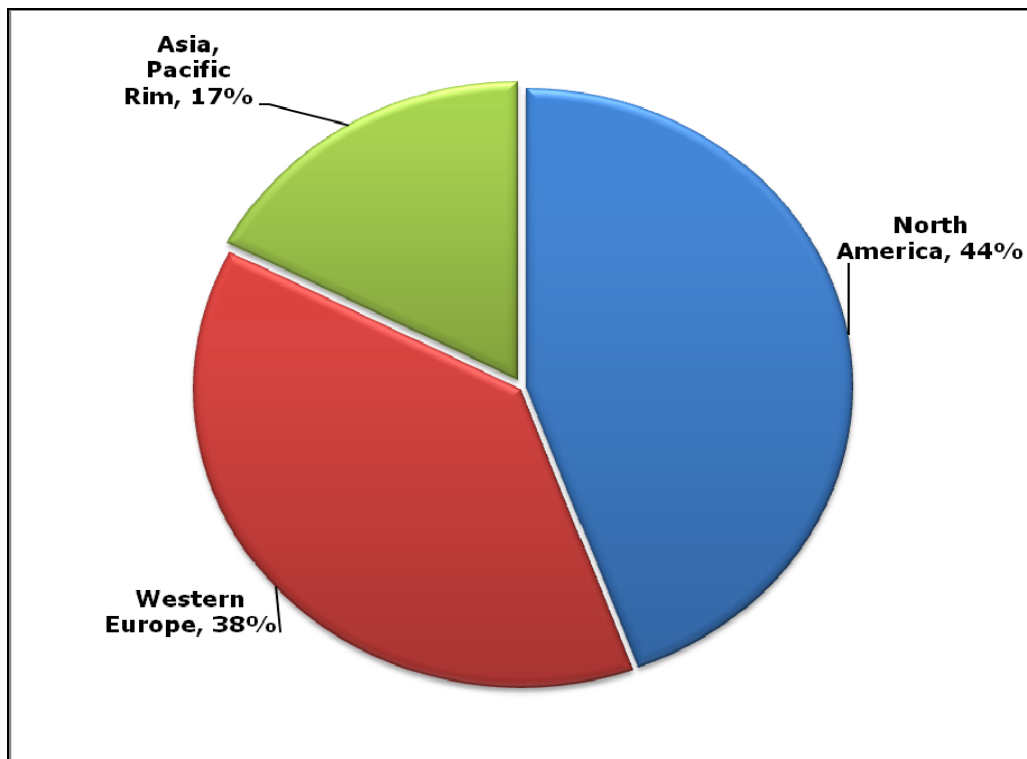
Introduction

The stem cells marketplace is one of the most dynamic areas in life sciences research today. Research efforts are moving forward at a rapid pace and this work is truly global—researchers in the US, UK, many countries in Europe, and Asia/Pacific are active participants. Therefore, unlike many other emerging themes in biotechnology, stem cells are an established research area that is experiencing significant growth. We have sought to characterize the stem cells marketplace by deploying market surveys across the space—in this manner we can assess trends that are operative across the landscape and potentially difficult to detect using other methodologies. In addition, since these market surveys use respondent pools that are distributed worldwide, we can get a picture of the marketplace that is truly global. Finally, since all the data are captured into a relational database, we can focus on specific market segments in the data set to analyze their quantitative trends and develop focused pictures of various markets in the total stem cells space.

Characterization of the Market Survey Respondent Pool

The respondent pool was composed of approximately 400 completed surveys from around the world. The breakout by geographical territory is presented in the pie chart format in Exhibit 1. The exhibit shows a good representation of respondents from all the three major territories surveyed.

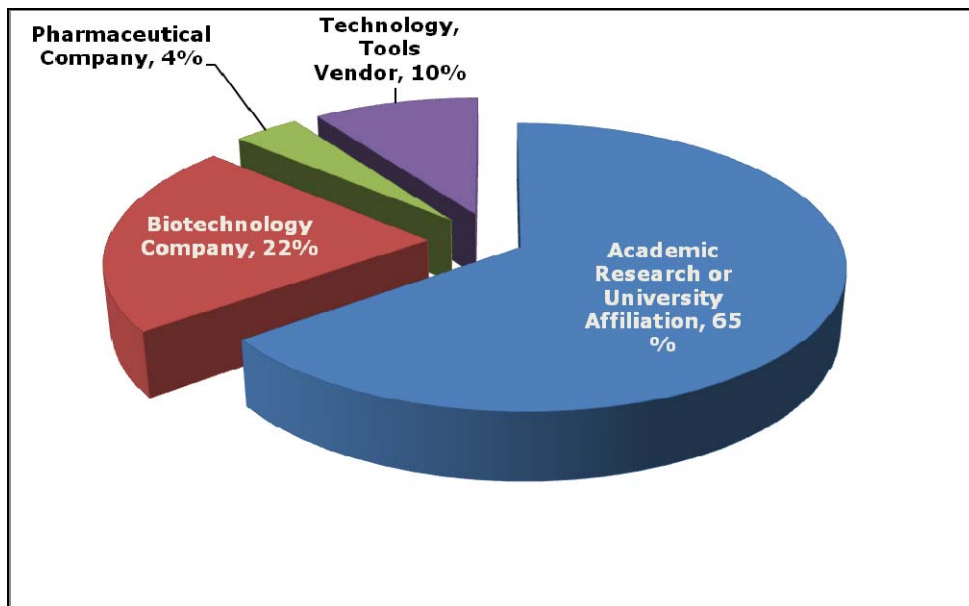
Exhibit 1. Geographical Distribution of Market Survey Respondent Pool.



Source: Select Biosciences Industry Tracking.

We further segmented our survey respondent pool based upon their affiliation—this is an attempt to understand how the market survey pool breaks-out with respect to academics versus pharmaceutical, or biotech respondents. The results are presented in Exhibit 2.

Exhibit 2. Respondent Breakout by Affiliation.



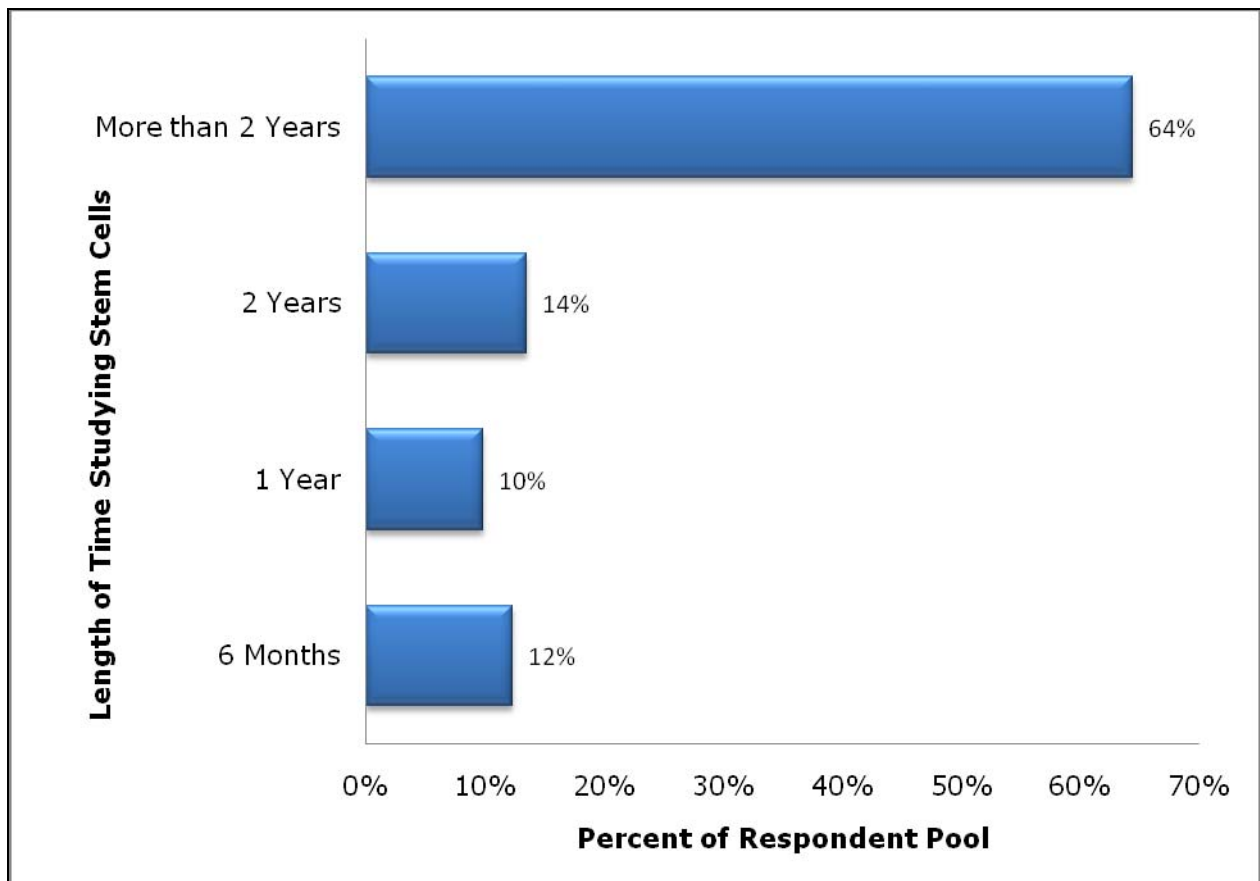
Source: Select Biosciences Industry Tracking.

The data from Exhibit 2 shows that the overwhelming numbers of respondents are engaged in academic research or have university affiliation; this suggests that the majority of our data collected represents the end-user market of stem cell research. This is important for several reasons:

- The bulk of product sales for stem cell research are made currently into the broader academic and university community
- The pharmaceutical and biotechnology community is in a wait-and-see mode with respect to stem cells. Given the ethical and intellectual property issues surrounding stem cells, the majority of the research efforts are performed in the academic/university research communities.

We further characterized our survey respondent pool to assess the length of time the respondents have been studying stem cells or using stem cells in their research. The results are presented in Exhibit 3.

Exhibit 3. Length of time the respondents have been studying stem cells or using stem cells in their research.



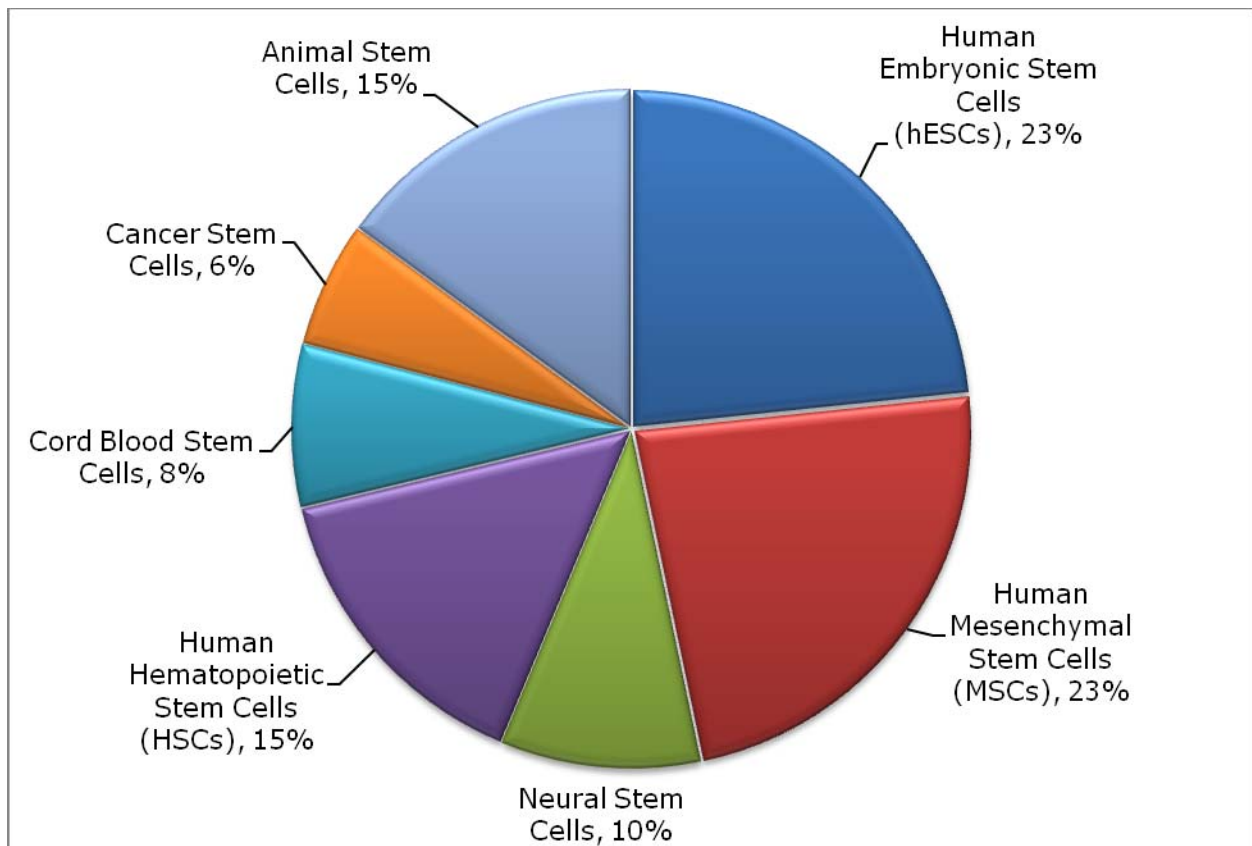
Source: Select Biosciences Industry Tracking.

The results demonstrate that by far a majority of our respondent pool has been studying stem cells or using stem cells in their research for more than 2 years, this suggests that this respondent pool is a *bona fide* pool to interrogate in terms of end-user perspectives and usage trends in the broader stem cells marketplace.

Types of Stem Cells used currently in Research Activities Worldwide

An important aspect of characterizing the stem cells marketplace is to assess the types of stem cells studying by the marketplace. We addressed this question by interrogating our respondent pool with respect to the type of stem cells they study/utilize primarily in their research efforts and commercial activities. In this manner, the one stem cell type used primarily is flagged. The results are presented in Exhibit 4.

Exhibit 4. Breakout of the utilization of the different types of stem cells currently.



Source: Select Biosciences Industry Tracking.

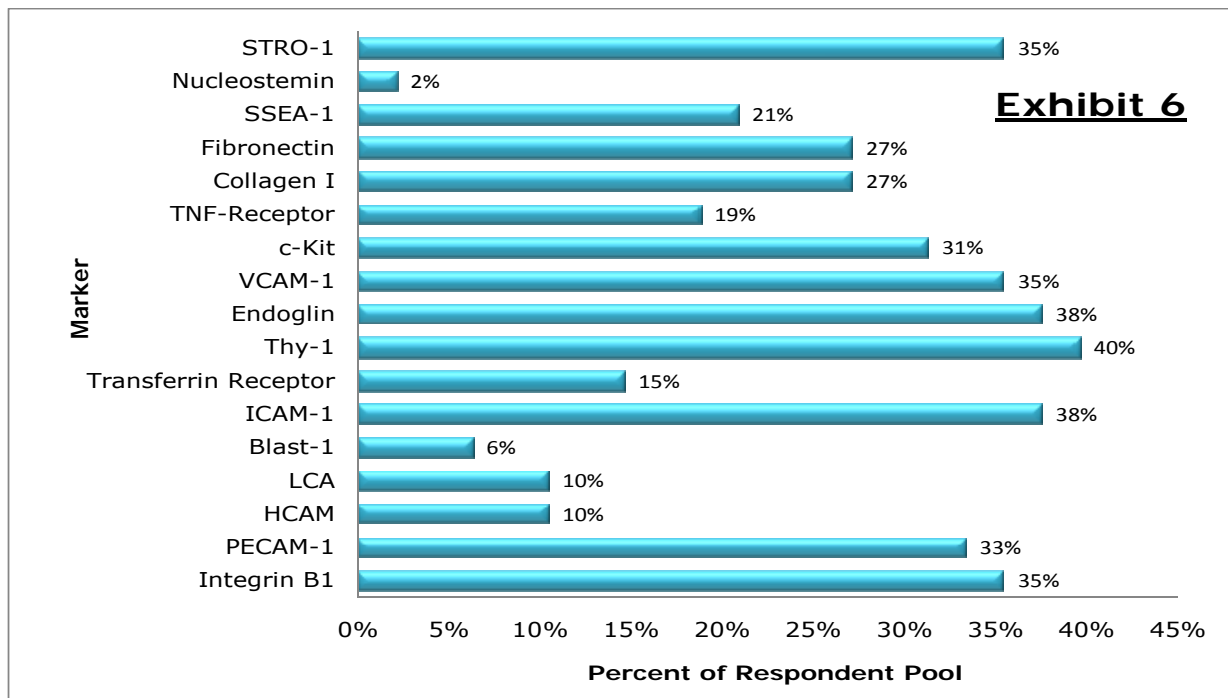
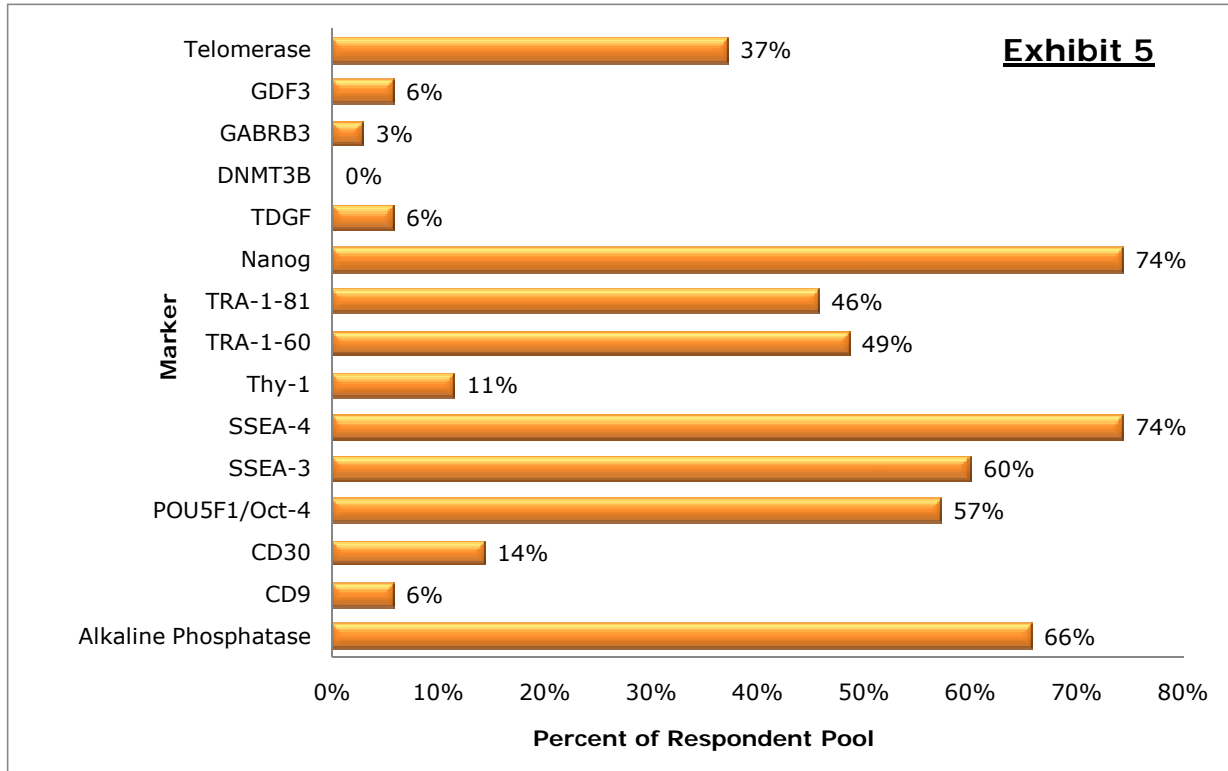
The results show that in fact about a quarter of the marketplace is studying hESCs, also surprisingly we found a significant percentage (23 percent) of researchers studying human mesenchymal stem cells (MSCs). These data are important for the following reasons:

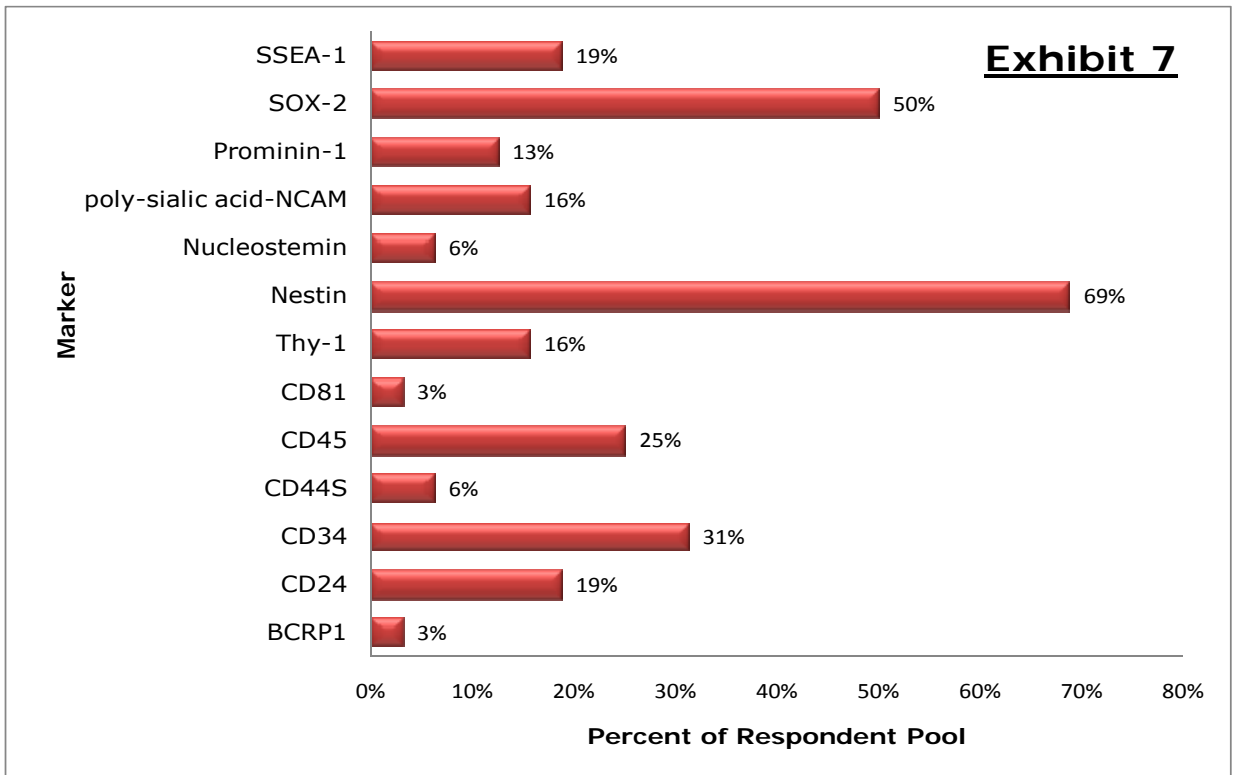
- They are global—so they represent the aggregate of worldwide stem cell research and a snapshot of the current stem cells space
- These data segment the current stem cells research/utilization activities by type of stem cell. Note that these data do not suggest the breakout of therapeutic usage or any revenue generation by type of stem cell—these data specifically break-out the research market along the lines of what types of stem cells are studied/used.
- The data also illustrate an interesting pattern, and somewhat unexpected, with respect to utilization of the various types of stem cells.

Markers used to characterize the Various Types of Stem Cells

Given the preponderance of certain stem cell types in research activities as highlighted in Exhibit 4, we sought to characterize the various markers that are used currently by the research landscape as a means to characterize the various stem cell types. The stem cell types we characterized were hESCs, MSCs and neural stem cells.

Exhibits 5, 6 and 7 presents the markers used to characterize hESCs, MSCs and neural stem cells, respectively.





The results from the above three exhibits present the current usage of the various markers (many of which are cell-surface markers) for the characterization of the different stem cell types. These data are important especially for the vendors to the life science research community in their assessment of the market opportunity for various research reagents positioned into the stem cells space. Where appropriate, we have used arrows to illustrate key markers of relevance that have high degree of penetration into the marketplace.

In Perspective

In summary, in this article we have summarized some of the recent stem cells-focused market survey data we have collected as part of our continuing coverage of the stem cells space. These data presented herein are a small subset of the complete data set that we have collected and continue to collect over a regular basis as part of our industry analysis of the global stem cells marketplace.

It is interesting to note the breakout of the different stem cells used/studied today worldwide, these results are important since to our knowledge they are the first worldwide market analysis of the total stem cells space. Furthermore, we have presented the types of markers used currently by the researchers worldwide to characterize different types of stem cells.

Our further analysis of the stem cells space has examined quantitative market trends, including spending patterns, barriers to entry, as well as market shares of the various market participants offering products into this space. These market analyses are important as they seek to characterize and focus technology and product development in an important area of life sciences.