



Document No. US10221249 B2	Related Docs A1 B2	App. No. 15/261084	Doc Status ACTIVE
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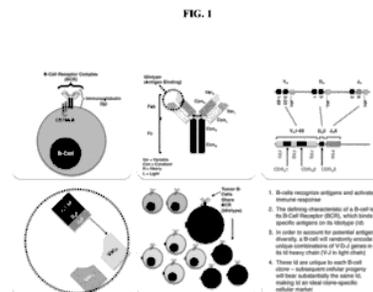
Method of making patient specific anti-idiotypic antibodies

PScore: 5 **16** Cite **83** Tech **0** Legal

The present disclosure relates to therapies for the treatment of tumor, autoimmune diseases, or other diseases. In some embodiments, the present disclosure can relate to subject-specific selection of humanized antibodies targeting clonal lineage specific marker proteins.

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Prosecution Statistics

No. O/As	2	Claim Sets	5
No. RCEs	0	FW Docs.	96
Pendency	2.48 yrs.	Len. Spec.	89 pgs.
CoC	No	Term. Disc.	No
Restriction	Yes	Term Ext.	0

Family Statistics

Apps. Filed	7
Apps. Active	4
Apps. Abandoned	2
Grants	1
Grants Active	1

Document Statistics

Total Words	43050 words
Len. Claim 1	314 words
No. Figures	6 pgs.
Rem. Annuities	\$12600
Next Payment	2022-09-05

Claim 1 **No. Claims: 9** **Length: 314 words**

A method of preparing an idiotypic-specific monoclonal antibody or fragment thereof, the method comprising:

- a) obtaining a biological sample from a subject having a leukemia or lymphoma, the biological sample comprising malignant lymphocytes;
- b) enriching the biological sample for a plurality of lymphocytes comprising a clonal lineage specific marker protein (CLSMP) derived from a gene, wherein the gene is selected from the group consisting of IGHV1-69, IGHV1-2, IGHV4-39, IGHV3-30, IGHV4-34, IGHV3-11, IGHV3-48, IGHV1-3, IGHV3-21, IGHV3-23, IGHV1-18, IGHV1-46, IGHV3-33, IGHV3-7, IGHV3-9, IGHV4-59, IGHV1-24, IGHV2-5, IGHV2-70, IGHV3-15, IGHV3-30-3, IGHV3-74, IGHV5-10-1, IGHV5-51, IGHV3-48, IGHV1-45, IGHV1-8, IGHV2-26, IGHV3-20, IGHV3-49, IGHV3-53, IGHV3-72, IGHV3-73, IGHV4-31, IGHV4-38-2, and IGHV7-4, and wherein the CLSMP comprises a B cell receptor (BCR) idiotype;
- c) performing reverse transcription on a plurality of RNA molecules corresponding to the CLSMP expressed in the enriched plurality of lymphocytes, thereby generating a plurality of cDNA molecules;
- d) amplifying the plurality of cDNA molecules, thereby generating a plurality of individually-separated PCR amplicons;
- e) performing massively parallel sequencing of the plurality of amplicons, thereby generating a plurality of sequence reads;
- f) clustering the plurality of sequence reads by similarity to generate a set of cluster-representative sequences;
- g) rank ordering the set of cluster-representative sequences by abundance identify a clonally-specific idiotype gene based on abundant expression in the plurality of lymphocytes;
- h) expressing an idiotype protein corresponding to the clonally-specific idiotype gene; and
- i) selecting an idiotype-specific monoclonal antibody or fragment thereof that binds the clonally-specific idiotype, wherein the idiotype-specific monoclonal antibody or fragment thereof is selected from a phagemid display library comprising phage expressing a plurality



of antibodies, Fab domains or scFv domains.



Score Details

<p>5 Patent Score</p>	<p>16 Citation Score</p>	<p>Remaining Life: 16.39 yrs.</p>
	<p>0 Legal Score</p>	<p>Number Claims: 9</p>
	<p>83 Tech Score</p>	<p>Forward Citations: 0</p>
		<p>Family Size: 7</p>
		<p>Remaining Maint: US \$12600</p>

Citation Analysis

<p>16 Citation Impact Score</p>	<p>0 Forward Citations</p>	<p>0 App Citations</p>	<p>0 Patent Citations</p>
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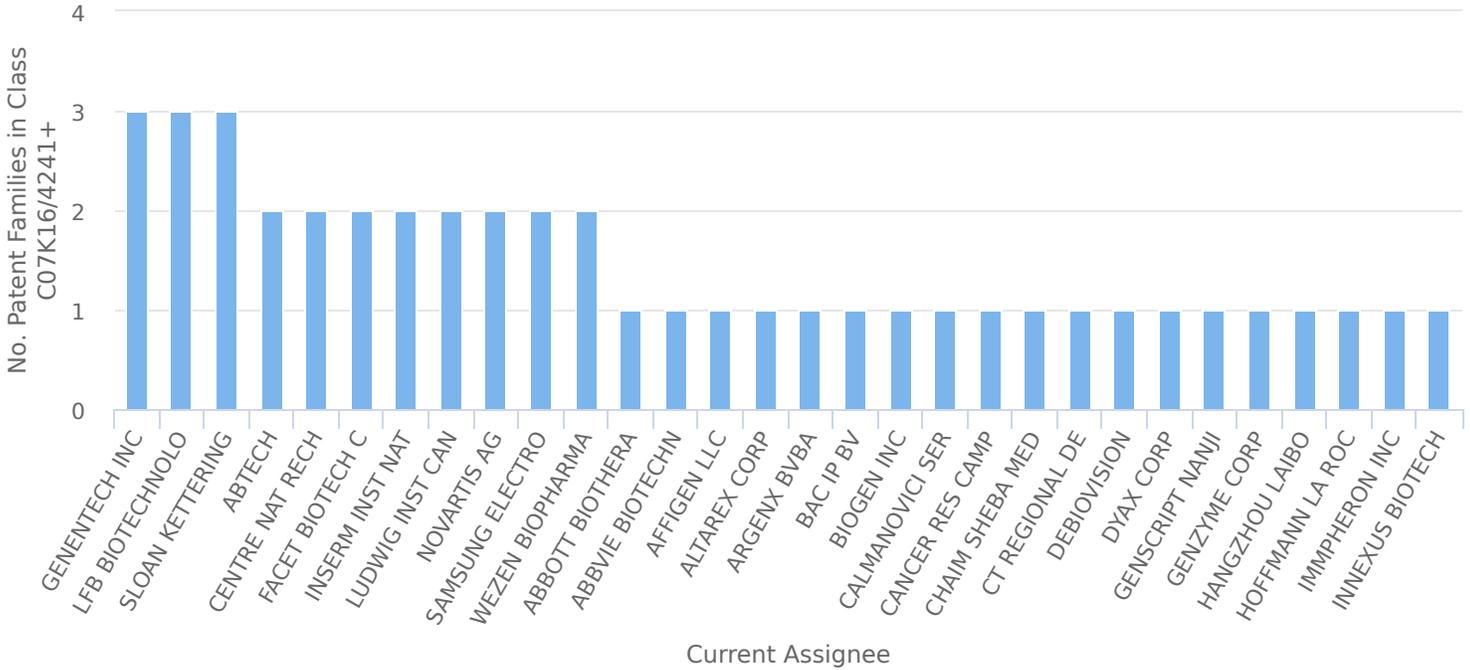
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