The inventions listed below are owned by an agency of the U.S. Government and are available for licensing in the U.S. in accordance with 35 U.S.C. 207 to achieve expeditious commercialization of results of federally-funded research and development. Foreign patent applications are filed on selected inventions to extend market coverage for companies and may also be available for licensing.

**Addresses:** Licensing information and copies of the U.S. patent applications listed below may be obtained by writing to the indicated licensing contact at the Office of Technology Transfer, National Institutes of Health, 6011 Executive Boulevard, Suite 325, Rockville, Maryland 20852–3804; telephone: 301/496–7057; fax: 301/402–0220. A signed Confidential Disclosure Agreement will be required to receive copies of the patent applications.

**Erythroid Progenitor Cell Line for Hematological Disease Applications**

**Description of Invention:** Plasmodium vivax (malaria) is a significant health concern in many parts of Asia, Latin America, North Africa, and the Middle East. There is a lack of continuous culture systems for this pathogen. The subject technology is an erythroid progenitor continuous cell line (termed CD36E) identified by erythroid markers CD36, CD33, CD44, CD71, CD235, and globoside. These CD36E cells are heterogeneous for Fya and Fyb (Duffy antigen). Due to recent evidence that Plasmodium vivax (P. vivax) can infect erythroid progenitor cells (reference: YX Ru et al. and T Panichakul et al.), these cells can be potentially used for culturing P. vivax and other species of malaria. This in turn could aid development of malaria related treatments and/or products. In addition, the cell line can also be used for other hematological disease applications that involve red blood cells or red blood cell precursors. The CD36E cells also produce alpha, beta, and chi hemoglobin and therefore may be used for research involving hemoglobin.

**Applications:**
- Culture system for Plasmodium species (malaria)
- Hematological diseases

**Advantages:** Immortalized erythroid progenitor cell line.

**Development Status:** In vitro data can be provided upon request.

**Market:**
- Malaria
- Anti-malaria drug screening
- Hematological diseases
- Hemoglobin

**Inventors:** Susan Wong, Neal S. Young, Ning Zhi (NHBLI).

**Relevant Publications:**


**Licensing Status:** Available for biological materials licensing.

**Licensing Contact:** Kevin W. Chang, Ph.D.; 301–435–5018; changke@mail.nih.gov.

**Collaborative Research Opportunity:** The National Heart Lung and Blood Institute, Hematology Branch, is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize the CD36E cell line. Please contact Cecilia Pazman, Ph.D., at pazmance@mail.nih.gov for more information.

**Parvovirus B19 Codon Optimized Structural Proteins for Vaccine and Diagnostic Applications**

**Description of Invention:** Parvovirus B19 (B19V) is the only known pathogenic human parvovirus. Infection by this viral pathogen can cause transient aplastic crisis in individuals with high red cell turnover, pure red cell aplasia in immunosuppressed patients, and hydrops fetalis during

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**Estimated Annualized Burden Hours**

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<tr>
<th>Respondents</th>
<th>Instrument type</th>
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<th>No. of responses per respondent</th>
<th>Average burden per respondent (in hours)</th>
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<td>Symptom questionnaire</td>
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<td>2</td>
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