SAFETY DATA SHEET
Cat# K700-100 CPR Activity Assay Kit

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Cytochrome P450 Reductase (CPR) Activity Colorimetric Assay Kit

PRODUCT CODES: Cat# K700-100

MANUFACTURER: BioVision, Inc.

ADDRESS: 155 S. Milpitas Boulevard, Milpitas, CA 95035

EMERGENCY PHONE: 858-373-8066

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
<th>Volume</th>
<th>Safety Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPR Assay Buffer</td>
<td>Proprietary Buffer</td>
<td>50 ml</td>
<td>No hazards</td>
</tr>
<tr>
<td>G6P Standard (lyophilized)</td>
<td>Lyophilized</td>
<td>1 vial</td>
<td>No hazards</td>
</tr>
<tr>
<td>Inhibitor</td>
<td>In DMSO</td>
<td>100 µl</td>
<td>See below</td>
</tr>
<tr>
<td>NADPH Substrate Mix</td>
<td>Lyophilized</td>
<td>1 vial</td>
<td>No hazards</td>
</tr>
<tr>
<td>G6P Standard Developer</td>
<td>Contains proprietary substrate &gt; 0.1%</td>
<td>1 vial</td>
<td>See below</td>
</tr>
<tr>
<td>Human CPR Positive Control</td>
<td>Lyophilized</td>
<td>1 vial</td>
<td>No hazards</td>
</tr>
</tbody>
</table>

NOTE: The safety data shown below is based on pure ingredients: The amount in this kit comprises much less.

SECTION 3: HAZARDS IDENTIFICATION

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS Number</th>
<th>EC-No.</th>
<th>Molecular Weight</th>
<th>Chemical Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROPRIETARY SUBSTRATE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DMSO</td>
<td>67-68-5</td>
<td>200-664-3</td>
<td>78.13</td>
<td>C₂H₆OS</td>
</tr>
</tbody>
</table>

PROPRIETARY SUBSTRATE:

Emergency Overview: Acute toxicity, Oral (Category 4), H302
Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319
Carcinogenicity (Category 2), H351

GHS Label elements, including precautionary statements

Signal word:

GHS Classification: H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H351 Suspected of causing cancer.

Precautionary statement(s):
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/eye protection/face protection.
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/attention.
P321 Specific treatment (see supplemental first aid instructions on this label).
P330 Rinse mouth.
P332 + P313 If skin irritation occurs: Get medical advice/attention.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.
P405 Store locked up.
P501 Dispose of contents/container to an approved waste disposal plant.

HMIS Classification
- Health hazard: 2
- Flammability: 0
- Physical hazards: 0

NFPA Rating
- Health Hazard: 2
- Fire: 0
- Reactivity Hazard: 0

DMSO:

Emergency Overview
OSHA Hazards: Combustible Liquid, Target Organ Effect
Target Organs: Eyes, Skin
GHS Classification: Flammable liquids (Category 4)
GHS Label elements, including precautionary statements
- Pictogram: none
- Signal word: Warning
- Hazard statement(s): H227 Combustible liquid
- Precautionary statement(s): none

Potential Health Effects
- Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.
- Skin: May be harmful if absorbed through skin. May cause skin irritation.
- Eyes: May cause eye irritation.
- Ingestion: May be harmful if swallowed.

Aggravated Medical Condition: Avoid contact w/DMSO solutions containing toxic materials or materials with unknown toxicological properties. DMSO is readily absorbed through skin and may carry such materials into the body.

SECTION 4: FIRST AID MEASURES

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact: Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.
In case of eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing during transport to hospital.
If swallowed: DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

SECTION 5: FIRE-FIGHTING MEASURES

DMSO:
Suitable extinguishing media: For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.
Hazardous combustion products: Hazardous combustion products formed under fire conditions – no data available.
Further information: Use water spray to cool unopened containers.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions: Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
Methods for cleaning up: Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.
Precautions for safe handling
Avoid inhalation of vapor or mist. Avoid contact with skin and eyes.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Recommended storage temperature: -20 °C

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>DMSO:</th>
<th>Components</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dimethyl sulfoxide</td>
<td>67-68-5</td>
<td>TWA</td>
<td>250 ppm</td>
<td>USA. Workplace Environmental Exposure Levels (WEEL)</td>
</tr>
</tbody>
</table>

PROPRIETARY SUBSTRATE:

Personal protective equipment

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection
Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures
Avoid contact with skin, eyes, and clothing. Wash hands before breaks and immediately after handling the product.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>PROPRIETARY SUBSTRATE</th>
<th>DMSO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance:</td>
<td>Powder</td>
<td>Clear liquid</td>
</tr>
<tr>
<td>pH:</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Water Solubility:</td>
<td>No data available</td>
<td>Completely miscible</td>
</tr>
<tr>
<td>Other Solubility:</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling Point (°C):</td>
<td>No data available</td>
<td>189 °C (372 °F)</td>
</tr>
<tr>
<td>Melting Point (°C):</td>
<td>No data available</td>
<td>16-19 °C (61-66 °F)</td>
</tr>
<tr>
<td>Flash Point (°C):</td>
<td>No data available</td>
<td>87 °C (189 °F)</td>
</tr>
<tr>
<td>Ignition Temperature (°C):</td>
<td>No data available</td>
<td>301 °C (574 °F)</td>
</tr>
<tr>
<td>Density:</td>
<td>No data available</td>
<td>1.1 g/ml</td>
</tr>
</tbody>
</table>

SECTION 10: STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Property</th>
<th>PROPRIETARY SUBSTRATE</th>
<th>DMSO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical stability:</td>
<td>Stable under recommended storage conditions</td>
<td>Heat, flames, sparks</td>
</tr>
<tr>
<td>Conditions to avoid:</td>
<td>Not data available</td>
<td>Acid chlorides, phosphorus halides, strong acids, strong oxidizing agents, strong reducing agents</td>
</tr>
<tr>
<td>Materials to avoid:</td>
<td>Strong oxidizing agents</td>
<td></td>
</tr>
<tr>
<td>Hazardous decomposition products:</td>
<td>No data available</td>
<td>Carbon oxides, sulfur oxides</td>
</tr>
</tbody>
</table>

SECTION 11: TOXICOLOGICAL INFORMATION

PROPRIETARY SUBSTRATE:

Acute toxicity: no data available
Skin corrosion/irritation: no data available
Serious eye damage/eye irritation: No data available
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Respiratory or skin sensitization: no data available
Germ cell mutagenicity: no data available

Carcinogenicity: Limited evidence of carcinogenicity in animal studies
  IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
  ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
  NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
  OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: no data available
Teratogenicity: no data available
Specific target organ toxicity – single exposure (GHS): no data available
Specific target organ toxicity – repeated exposure (GHS): no data available

Aspiration hazard: no data available

Signs and Symptoms of Exposure: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Synergistic effects: no data available
Additional information: RTECS: no data available

DMSO:
Acute toxicity: LD50 Oral – rat – 14,500 mg/kg
LC50 Inhalation – rat – 4 h – 40250 ppm
LD50 Dermal – rabbit – >5,000 mg/kg
Skin corrosion/irritation: Skin – rabbit – no skin irritation – 4h
Serious eye damage/eye irritation: Eyes – rabbit – mild eye irritation
Respiratory or skin sensitization: no data available

Germ cell mutagenicity: Genotoxicity in vitro – mouse – lymphocyte: Cytogenetic analysis
Genotoxicity in vitro – mouse – lymphocyte: Mutation in mammalian somatic cells
Genotoxicity in vivo – rat – Intraperitoneal: Cytogenetic analysis
Genotoxicity in vivo – mouse – Intraperitoneal: DNA damage


IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Reproductive toxicity – rat – Intraperitoneal→ Effects on fertility: abortion
Reproductive toxicity – rat – Intraperitoneal→ Effects on fertility: post-implantation mortality (e.g. dead and/or resorbed implants per total number of implants).
Reproductive toxicity – rat – Subcutaneous→ Effects on fertility: post-implantation mortality (e.g. dead and/or resorbed implants per total number of implants). Effects on fertility: litter size (e.g. # fetuses per litter; measured before birth)
Reproductive toxicity – mouse – Oral→ Effects on fertility: post-implantation mortality (e.g. reduction in number of implants per female; total number of implants per corpora lutea). Effects on embryo/fetus: Fetotoxicity (except death, e.g. stunted fetus). Specific developmental abnormalities: musculoskeletal system.

Teratogenicity: Developmental toxicity – mouse – Intraperitoneal: Effects on embryo/fetus: Fetotoxicity (except death, e.g. stunted fetus).
Specific developmental abnormalities: musculoskeletal system

Specific target organ toxicity – single exposure (GHS): no data available
Specific target organ toxicity – repeated exposure (GHS): no data available

Aspiration hazard: no data available

Potential Health Effects
  Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.
  Skin: May be harmful if absorbed through skin. May cause skin irritation.
  Eyes: May cause eye irritation.
  Ingestion: May be harmful if swallowed.

Aggravated Medical Condition: Avoid contact w/DMSO solutions containing toxic materials or materials with unknown toxicological properties. DMSO is readily absorbed through skin and may carry such materials into the body.

Signs and Symptoms of Exposure: Effects due to ingestion may include: nausea, fatigue, and/or headache.
Additional information: RTECS: PV6210000

Section 12: Ecological Information

Proprietary Substrate:
Persistence and degradability: no data available
Toxicity: no data available
SAFETY DATA SHEET
Cat# K700-100 CPR Activity Assay Kit            SDS DATE: Mar 24, 2015
Bioaccumulative potential: Does not bioaccumulate
Mobility in soil: no data available
PBT and vPvB assessment: no data available
Other adverse effects: no data available

DMSO:
Elimination information (persistence and degradability): no data available
Ecotoxicity effects: Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 34,000 mg/l - 96 h; LC50 - Oncorhynchus mykiss (rainbow trout) - 35,000 mg/l - 96 h; Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia pulex (Water flea) - 27,500 mg/l Toxicity to algae EC50 - Lepomis macrochirus (Bluegill) - >400,000 mg/l - 96 h
Further information on ecology: no data available

SECTION 13: DISPOSAL CONSIDERATIONS

Product: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solven and burn in a chemical incinerator equipped with an afterburner and scrubber.
Contaminated packaging: Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

PROPRIETARY SUBSTRATE & DMSO:
DOT (US): UN-Number: 1993, Class: CBL, Packing group: III; Proper shipping name: Combustible liquid, n.o.s. (Dimethyl sulfoxide); Marine pollutant: No; Poison Inhalation Hazard: No
IMDG: Not dangerous goods.
IATA: Not dangerous goods.

SECTION 15: REGULATORY INFORMATION

SARA 302 Components: SARA 302: No chemical in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components: SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title II, Section 313.
SARA 311/312 Hazards: PROPRIETARY SUBSTRATE: Acute Health Hazard, Chronic Health Hazard
DMSO: Fire Hazard, Chronic Health Hazard
Massachusetts Right To Know Components: No components are subject to the Massachusetts Right to Know Act.
Pennsylvania Right To Know Components: PROPRIETARY SUBSTRATE, CAS-No. --
Dimethyl sulfoxide CAS-No. 67-68-5
New Jersey Right To Know Components: PROPRIETARY SUBSTRATE, CAS-No. --
Dimethyl sulfoxide CAS-No. 67-68-5
California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

EU regulations:

<table>
<thead>
<tr>
<th>Component</th>
<th>Risk Phrases</th>
<th>Safety Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROPRIETARY SUBSTRATE</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>DMSO</td>
<td>R10, R36/37/38</td>
<td>S24/25, S36/37/39, S45</td>
</tr>
</tbody>
</table>

SECTION 16: OTHER INFORMATION

DISCLAIMER:
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. BioVision, Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.