



Material Safety Data Sheet

Section 1. Product and Company Information

Product Name: Ziva® Ultrasensitive BrdU Cell Proliferation Assay
Product Number: CM003, CM004, CM008, CM007, CM006, CM009
Company: Jaden BioScience, Inc.
Address: 3950 Sorrento Valley Blvd., Suite 400
 San Diego, CA 92121
Telephone: (858) 320-0097
Fax: (858) 320-0057

Intended Use: For Research Use Only, Not for Use in Diagnostic Procedures

Kit and Ancillary Contents for: The Ziva™ Ultrasensitive BrdU Cell Proliferation Assay and ancillary products contain the following reagents (Rgt) for CM003, CM004, CM008, CM007, CM006 and CM009.

Rgt 1	Rgt 2	Rgt 3	Rgt 4	Rgt 5	Rgt 6
Anti-BrdU mAb-AP Conj	BrdU Labeling Soln	Ab Conj. Diluent	Fix Soln	String. Soln	Prep Soln
Cat No: AB0101 AB0105	Cat No: SL022	Cat No: SL0231 SL0235	Cat No: SL0061 SL0065	Cat No: SL0201 SL0205	Cat No: SL0111 SL0115

Rgt 7	Rgt 8	Rgt 9	Rgt 10	Rgt 11
Wash Buffer	CDP* Subst	Flex System Reagent	Positive Control	Negative Control
Cat No: BU0071 BU0075	Cat No: SU005 SU006	Cat No: SL0191 SL0195	Cat No: ST0051	Cat No: ST0061

Section 2: Chemical Identification/ Composition/Information on Ingredients

Reagent 8: Contains Alcanolamine in buffer solution and

CAS-No. 124-68-5, 1-10%, 2-Amino-2-methylpropanol

CAS No. No other individual reagent contains a hazardous chemical that is greater than 1 %

Chemical Formula: Not applicable to mixtures, Trade Secret formulation

Reagent 1 contains 0.05% Sodium Azide. Reagent 6 contains 0.04% Sodium Azide. Reagents 3 and 7 contain 0.08% Sodium Azide. At high concentrations, Sodium Azide is known to collect in drainage pipes and can cause explosions. Flush with copious amounts of water. Dispose of reagents according to local, state/province and federal/government regulations.

Section 3. Hazard Identification/ First Aid Measures.

Reagent 8 contains 1-10% 2-Amino-2-methylpropanol

All reagents may present potential unknown health hazards. Personnel who handle reagents should be trained in working with potentially hazardous materials and adhere to Universal Precautions.

Emergency Overview

Physical State: Liquid

Odor: None

Warning! May cause skin, respiratory system and eye irritation.

Potential Health Effects and First Aid Measures

Inhalation: May cause irritation to the respiratory system. Move injured person into fresh air and keep person calm under observation. Get medical attention if any discomfort continues

Eye Contact: Causes eye irritation. May cause redness and pain. Exposed individuals may experience eye tearing, redness and discomfort. Immediately flush with plenty of water or sterile saline for the eyes for up to 15 minutes. Remove any contact lenses and open eyes wide apart. If irritation occurs, get medical assistance.

Skin Contact: Causes skin irritation. Remove contaminated clothes and rinse skin thoroughly with water for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

Ingestion: May cause discomfort if swallowed. Rinse mouth thoroughly with water and give large amounts of milk or water to people not unconscious. Get medical attention if any discomfort continues.

Section 5. Fire-Fighting Measures

Extinguishing Media: This product is not flammable. Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable Extinguishing Media: Not applicable.

Special Fire Fighting Procedures: No specific fire fighting procedure given.

Unusual Fire & Explosion Hazards: During fire, gases hazardous to health may be formed.
Heating will generate vapors which may form explosive vapor/air mixtures.

Hazardous Combustion Products: Carbon Dioxide, Carbon Monoxide, Nitrogen Oxides

Protective Measures: Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace.

Flammability Class: NFPA Rating Fire = 1

Section 6. Accidental Release Measures

Personal Precautions: Wear suitable protective clothing. See Section 8 of the MSDS for Personal Protective Equipment

Spill Cleanup Methods: Absorb spillage with suitable absorbent material. For waste disposal, see Section 13 of the MSDS.

Environmental Precautions: Avoid large discharge into drains, water courses or onto the ground.
Flush with large amounts of water if discharging large amounts in drain.

Notification Procedures: Inform authorities if large amounts of discharge are involved.

Section 7. Handling and Storage

Handling: No specific recommendations due to the small quantities handled. Local exhaust is recommended. Wear protective gloves and appropriate clothing to prevent skin contact. Observe Universal Precautions and good industrial hygiene practices.

Storage: Store in closed original container in dry place according to temperature requirements listed on each reagent or if stored together according to the temperature requirements for the Kit. Keep away from food, drink and animal feeding materials.

Storage, Handling and Stability

Parameter	Rgt 1	Rgt 2	Rgt 3	Rgt 4	Rgt 5	Rgt 6	Rgt 7	Rgt 8
Storage	+2 to +8 °C	+2 to +8 °C	+2 to +8 °C	+2 to +30 °C	+2 to +30 °C	+2 to +30 °C	+2 to +8 °C	+2 to +8 °C
Light Sensitive	ND	Yes	Yes	ND	ND	ND	Yes	Yes
Heat Sensitive	Yes	ND	ND	ND	ND	ND	ND	Yes
Parameter	Rgt 9	Rgt 10	Rgt 11	All Reagents: Keep lids tightly closed, store according to labeling. Expiration dates listed on reagent labeling denotes their stability.				
Storage	+2 to +30 °C	+2 to +8 °C	+2 to +8 °C					
Light Sensitive	ND	Yes	Yes					
Heat Sensitive	ND	ND	ND					

Section 8. Exposure Controls/Personal Protection

Exposure Limits: No exposure limits noted for ingredients(s) on ACGIH, OSHA and WEEL lists. Consult Canadian Provincial Regulations and/or Mexican Regulations on exposure limits, if applicable.

Engineering Controls: Provide adequate ventilation.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established, an approved respirator should be worn. In the United States of America (USA), if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Seek advice from supervisor on the company or institutions respiratory protection standards.

Eye Protection: Wear approved safety goggles.

Hand Protection: Wear protective gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.

Skin Protection: Wear suitable protective clothing. An apron, or laboratory coat and long sleeves are recommended.

Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, or applying cosmetics. Routinely wash clothing and protective equipment to remove contaminants.

Section 9. Physical Characteristics

Parameter	Rgt 1 Anti-BrdU mAb-AP Conj	Rgt 2 BrdU Labeling Soln	Rgt 3 Ab Conj. Diluent	Rgt 4 Fix Soln	Rgt 5 String. Soln	Rgt 6 Prep Soln
Form	Solution (Soln)	Soln	Soln	Soln	Soln	Soln
Color (at room temperature)	Colorless, Opaque (CO)	Colorless Clear (CC)	Light yellow, Clear (YC)	CC	CO	CC
Boiling Point	ND*	ND	ND	ND	ND	ND
Vapor Pressure	ND	ND	ND	ND	ND	ND
Vapor Density	ND	ND	ND	ND	ND	ND
Evaporation Rate	ND	ND	ND	ND	ND	ND
Flash Point	ND	ND	ND	ND	ND	ND

*No Available Data= ND

Parameter	Rgt 7 Wash Buf	Rgt 8 CDP* Subst	Rgt 9 Flex System	Rgt 10 Positive Control	Rgt 11 Negative Control
Form	Soln	Soln	Soln	Soln	Soln
Color (at room temperature)	YC	CO	Light yellow, Clear (YC)	CC	CO
Boiling Point	ND	ND	ND	ND	ND
Vapor Pressure	ND	ND	ND	ND	ND
Vapor Density	ND	ND	ND	ND	ND
Evaporation Rate	ND	ND	ND	ND	ND
Flash Point	ND	ND	ND	ND	ND

Section 10. Stability and Reactivity

Stability: This product is stable under expected conditions of use.

Conditions to Avoid: Heat unless specified in the assay procedure.

Incompatible Materials: Strong oxidizing agents. Strong acids. Aluminum, Copper.

Hazardous Decomposition: At elevated temperatures: Carbon Dioxide, Carbon Monoxide, Nitrogen Oxides

Section 11. Toxicological Information

Specified Substance(s)

Acute Toxicity:

Component Chemical Name	Test Results
2-Amino-2-methylpropanol	Dermal LD50 (Rabbit): 2000 mg/kg
2-Amino-2-methylpropanol	Oral LD50 (Rat): 2900 mg/kg

Listed Carcinogens: None.

Product Information

Acute Toxicity: Causes skin and eye irritation. May cause irritation to the respiratory system.

Chronic Toxicity: May cause damage to the liver.

Section 12. Ecological Information

Ecotoxicity: The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Specified Substance(s)

Component Chemical Name	Test Results
2-Amino-2-methylpropanol	EC50 (48 hrs, Daphnia magna): 193 mg/L
2-Amino-2-methylpropanol	LC50 (96 hrs, Bluegill Sunfish): 190 mg/L

Mobility: The product is water soluble and may spread in water systems.

Persistence and Degradability: No data available.

Bioaccumulation Potential: No data available.

Section 13. Disposal Considerations

General Information: Dispose of waste and residues in accordance with local authority requirements.

Disposal Methods: No specific disposal method required.

Container: Since emptied containers retain product residue, follow label warnings even after container is emptied.

Section 14. Transport Information

DOT: Non hazardous for transport

TDG Non hazardous for transport

IATA: Non hazardous for transport

IMDG: Non hazardous for transport

Section 15. Regulatory Information

Canadian Controlled Products Regulations: This product has been classified according to the hazard criteria of the Canadian Controlled Products Regulations, Section 33, and the MSDS Contains all required information.

WHMIS Classification: D2B

Mexican Dangerous Statement. This product is dangerous according to Mexican regulations.

Inventory Status: US TSCA inventory Status: All the components of this substance are listed on or are exempt from the inventory. For purposes of 40 CFR 720.36, this product is intended for Research Use Only.

US Regulations

Section 302 Extremely Hazardous Substances (40 CFR 355, Appendix A): Not regulated.

Section 311/312 (40 CFR 370)

Yes Acute (immediate) Yes Chronic (delayed) No Fire No Reactive No Pressure Generating

Section 313 Toxic Release Inventory (40 CFR372): Not regulated.

Clean Air Act (CAA) Section 112® Accidental Release Prevention (40CFR 68.130): Not regulated

Clean Water Act Section 311 Hazardous Substances (40117.3): Not regulated.

Drug Enforcement Act: Not regulated.

TSCA:

TSCA Section 4(a) Final Test Rules & Testing Consent Orders: Not regulated

TSCA Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpart E): Not regulated

TSCA Section 5(e) PMN-Substance Consent Orders: Not regulated

TSCA Section 12(b) Export Notification (40 CFR 707, Subpart D): Not regulated

State Regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): Not regulated.

Massachusetts Right-to-Know List: 2-Amino-2-Methylpropanol, Sodium Azide.

Michigan Critical Materials List (Michigan Natural Resources and Environmental Protection Act (Act. 451 of 1994)): Not regulated.

Minnesota Hazardous Substances List: Not regulated.

New Jersey Right-To-Know List: Not regulated

Pennsylvania Right-To-Know List: Not regulated

Rhode Island Right-To-Know List: Not regulated

Section 16. Other Information

Hazard Ratings

	Health Hazard	Fire Hazard	Instability	Special Hazard
NFPA	2	1	0	--

Hazard rating: 0-Minimal, 1-Slight, 2-Moderate, 3-Serious, 4-Severe

NFPA Label colored diamond code: Blue-Health, Red-Flammability, Yellow-Instability, White-Special Hazards.

	Health Hazard	Flammability	Physical Hazard	Personnal Protection
HMIS	1*	1	0	--

Hazard rating: 0-Minimal, 1-Slight, 2-Moderate, 3-Serious, 4-Severe *-Chronic Health Effect

Personal Protection codes: B-Safety Glasses, Gloves

HMIS Label colored bar code: Blue-Health, Red-Flammability, Orange- Physical Hazards, White-Special.

Disclaimer:

This MSDS has been prepared using information from sources considered technically reliable. It should not be relied upon as a product specification. The company makes no warranty of any kind, express or implied, concerning the safe use of the reagents within this kit, in your process or in combination with other chemical substances. Every user of the product is responsible for evaluating its own processes and conditions of use and selecting appropriate protective measures for employee use and exposure.

Revision: MSDS-ZCPA021910