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[Rev 8.13.10/IA-JK]

Product: XIT[™] Mitochondrial DNA kit Catalog #: 786-301

Description	Size
SubCell Buffer-I	60ml
SubCell Buffer-II [3X]	30ml
Mitochondrial Lysis Buffer	60ml
LongLife™ Proteinase K (5mg/ml)	0.5ml
XIT™ Protein Precipitation Buffer	25ml
TE Buffer	10ml
LongLife™ RNase	0.5ml

Material Safety Data Sheet

Section 1: Chemical Identification

Name: SubCell Buffer-I

Catalog #: a component of product Cat.# 786-301 indicated above

Section 2: Composition/Information on Ingredients

Contains: Tris Base CAS# 77-86-1 <5% and other proprietary salt composition

Section 3: <u>Hazards Identification</u>

Label precautionary statements. Irritating to eyes, respiratory system, and, skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 4: First-Aid Measures

After eye contact: Immediately flush eyes with copious amounts of water for at least 15 minutes.

After skin contact: Immediately wash skin with soap and copious amounts of water.

After Inhalation: Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

After swallowing: Wash out mouth with water provided person is conscious.

Call a physician. Wash contaminated clothing before reuse.

Section 5: Fire Fighting Measures

Extinguishing Agents:

Water spray, Carbon dioxide, dry chemical powder or appropriate foam.

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Unusual fire and explosions hazards: Emits toxic fumes under fire conditions.

Section 6: Accidental Release Measures

Human Safety Precautions: Wear respirator, chemical safety goggles, rubber boots and heavy rubber gloves.

Cleaning/Collecting Measures: Sweep up, place in a bag and hold for waste disposal.

Avoid raising dust

Ventilate area and wash spill site after material pickup is complete.

Section 7: Handling and Storage

Refer to section 8.

Section 8: Exposure Controls/Personal Protection

Personal protective equipment: Chemical safety goggles, compatible chemical-respirator, NIOSH/MSHA-approved respirator, and safety shower and eye bath.

General Protective and Hygiene Measures: Mechanical exhaust required. Do not breathe in dust. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Irritant. Keep tightly closed. Store in a cool dry place.

Section 9: Physical and Chemical Properties

Form: Liquid

Color: Clear

Odor: Not available

Section 10: Stability and Reactivity

Thermal Decomposition/Conditions to be Avoided: No decomposition if used according to specifications.

Dangerous Reactions: No dangerous reactions known.

Dangerous Products of Decomposition: No known dangerous decomposition products.

Section 11: Toxicological Information

Primary Irritant Effects: Harmful if inhaled or ingested.

On the skin: Material is irritating to skin and mucous membranes.

On the eye: Causes eye irritation.

Sensitization: No sensitizing effects known.

Section 12: Ecological Information

Data not yet available.

Section 13: Disposal Considerations

Recommendation: Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Hand over to hazardous waste disposers. Observe all federal, state and local environmental regulations.

Section 14: <u>Transport Information</u> Not dangerous goods. Safe for all transport.

Section 15: <u>Regulatory information</u> Irritating to eyes, respiratory system and skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 16: Other Information The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Genotech 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.

G-Biosciences/Genotech St. Louis, MO, USA

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Material Safety Data Sheet

Section 1: Chemical Identification

Name: SubCell Buffer-II [3X]

Catalog #: a component of product Cat#. 786-301 indicated above

Section 2: Composition/Information on Ingredients

Contains: Tris Base CAS#77-86-1 <5%, EDTA CAS#60-00-4 <5% and other proprietary salt composition

Section 3: <u>Hazards Identification</u>

Label precautionary statements. Irritating to eyes, respiratory system, and, skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 4: <u>First-Aid Measures</u>

After eye contact: Immediately flush eyes with copious amounts of water for at least 15 minutes.

After skin contact: Immediately wash skin with soap and copious amounts of water.

After Inhalation: Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

After swallowing: Wash out mouth with water provided person is conscious.

Call a physician. Wash contaminated clothing before reuse.

Section 5: Fire Fighting Measures

Extinguishing Agents: Water spray, Carbon dioxide, dry chemical powder or appropriate foam.

Special fire fighting procedures: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Unusual fire and explosions hazards: Emits toxic fumes under fire conditions.

Section 6: Accidental Release Measures

Human Safety Precautions: Wear respirator, chemical safety goggles, rubber boots and heavy rubber gloves.

Cleaning/Collecting Measures: Sweep up, place in a bag and hold for waste disposal. Avoid raising dust Ventilate area and wash spill site after material pickup is complete.

Section 7: Handling and Storage

Refer to section 8.

Section 8: Exposure Controls/Personal Protection

Personal protective equipment: Chemical safety goggles, compatible chemical-respirator, NIOSH/MSHA-approved respirator, and safety shower and eye bath.

General Protective and Hygiene Measures: Mechanical exhaust required. Do not breathe in dust. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Irritant. Keep tightly closed. Store in a cool dry place.

Section 9: Physical and Chemical Properties

Form: Liquid

Color: Clear

Odor: Not available

Section 10: Stability and Reactivity

Thermal Decomposition/Conditions to be Avoided: No decomposition if used according to specifications.

Dangerous Reactions: No dangerous reactions known.

Dangerous Products of Decomposition: No known dangerous decomposition products.

Section 11: Toxicological Information

Primary Irritant Effects: Harmful if inhaled or ingested.

On the skin: Material is irritating to skin and mucous membranes.

On the eye: Causes eye irritation.

Sensitization: No sensitizing effects known.

Section 12: Ecological Information

Data not yet available.

Section 13: Disposal Considerations

Recommendation: Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Hand over to hazardous waste disposers. Observe all federal, state and local environmental regulations.

Section 14: Transport Information Not dangerous goods. Safe for all transport.

Section 15: <u>Regulatory information</u> Irritating to eyes, respiratory system and skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 16: Other Information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Genotech 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.

G-Biosciences/Genotech St. Louis, MO, USA

Web: www.GBiosciences.com, email: technical@GBiosciences.com

Material Safety Data Sheet

Section 1: Chemical Identification

Name: Mitochondrial Lysis Buffer

Catalog #: a component of product Cat# 786-301 as indicated above

Section 2: Composition/Information on Ingredients

Contains: Tris-Hcl [CAS#1185-53-1] <1%; Ethylene diamine tetraacetic acid, EDTA [CAS#6381-92-6] <1% and other proprietary non-hazardous substances.

Section 3: Hazards Identification

Label precautionary statements. Irritating to eyes, respiratory system, and, skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 4: First-Aid Measures

After eye contact: Immediately flush eyes with copious amounts of water for at least 15 minutes.

After skin contact: Immediately wash skin with soap and copious amounts of water. Wash contaminated clothing before reuse.

After Inhalation: None needed for non-volatile items. For items emitting vapor and dust particles: Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

After swallowing: Wash out mouth with water provided person is conscious. Call a physician.

Section 5: Fire Fighting Measures

Extinguishing Agents: Water spray, Carbon dioxide, dry chemical powder or appropriate foam.

Special fire fighting procedures: None needed

Unusual fire and explosions hazards: Not known

Section 6: Accidental Release Measures

Human Safety Precautions: Chemical safety goggles, rubber boots and rubber gloves.

Cleaning/Collecting Measures: Mop up, place in a bag and hold for waste disposal.

Section 7: <u>Handling and Storage</u>

Refer to section 8.

Section 8: Exposure Controls/Personal Protection

Personal protective equipment: Chemical safety goggles, compatible chemical-respirator, NIOSH/MSHA-approved respirator, and safety shower and eye bath.

General Protective and Hygienic Measures: Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Irritant. Keep tightly closed. Store in a cool dry place.

Section 9: Physical and Chemical Properties

Form: Liquid

Color: Clear

Odor: None

Section 10: Stability and Reactivity

Thermal Decomposition/Conditions to be Avoided: No decomposition if used according to specifications.

Dangerous Reactions: No dangerous reactions known.

Dangerous Products of Decomposition: No known dangerous decomposition products.

Section 11: Toxicological Information

Primary Irritant Effects: Harmful if inhaled or ingested.

On the skin: Material is irritating to skin and mucous membranes.

On the eye: Causes eye irritation.

Sensitization: No sensitizing effects known.

Section 12: Ecological Information

Data not yet available

Section 13: Disposal Considerations

Recommendation: Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Hand over to hazardous waste disposers. Observe all federal, state and local environmental regulations.

Section 14: <u>Transport Information</u> Not dangerous goods. Safe for all transport.

Section 15: Regulatory information

Irritating to eyes, respiratory system and skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 16: Other Information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. G-Biosciences 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.

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Material Safety Data Sheet

Section 1: Chemical Identification

Name: XIT[™] Protein Precipitation Buffer

Catalog #: a component of product Cat.# 786-301 indicated above

Section 2: Composition/Information on Ingredients

Contains: Sodium Chloride [CAS#7647-14-5] <30% and other proprietary agents, believed to be non-hazardous.

Section 3: <u>Hazards Identification</u>

Label precautionary statements. Irritating to eyes, respiratory system, and, skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 4: First-Aid Measures

After eye contact: Immediately flush eyes with copious amounts of water for at least 15 minutes.

After skin contact: Immediately wash skin with soap and copious amounts of water. Wash contaminated clothing before reuse.

<u>After Inhalation:</u> None needed for non-volatile items. For items emitting vapor and dust particles: Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

After swallowing: Wash out mouth with water provided person is conscious. Call a physician.

Section 5: Fire Fighting Measures

Extinguishing Agents: Water spray, Carbon dioxide, dry chemical powder or appropriate foam.

Special fire fighting procedures: None needed

Unusual fire and explosions hazards: Not known

Section 6: Accidental Release Measures

Human Safety Precautions: Chemical safety goggles, rubber boots and rubber gloves.

Cleaning/Collecting Measures: Mop up, place in a bag and hold for waste disposal.

Section 7: Handling and Storage Refer to section 8.

Section 8: Exposure Controls/Personal Protection

Personal protective equipment: Chemical safety goggles, compatible chemical-respirator, NIOSH/MSHA-approved respirator, and safety shower and eye bath.

General Protective and Hygienic Measures: Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Irritant. Keep tightly closed. Store in a cool dry place.

Section 9: Physical and Chemical Properties

Form: Liquid

Color: Clear

Odor: None

Section 10: Stability and Reactivity

Thermal Decomposition/Conditions to be Avoided: No decomposition if used according to specifications.

Dangerous Reactions: No dangerous reactions known.

Dangerous Products of Decomposition: No known dangerous decomposition products.

Section 11: <u>Toxicological Information</u>

Primary Irritant Effects: Harmful if inhaled or ingested.

On the skin: Material is irritating to skin and mucous membranes.

On the eye: Causes eye irritation.

Sensitization: No sensitizing effects known.

Section 12: **Ecological Information** Data not yet available

Section 13: Disposal Considerations

Recommendation: Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Hand over to hazardous waste disposers. Observe all federal, state and local environmental regulations.

Section 14: Transport Information Not dangerous goods. Safe for all transport.

Section 15: <u>Regulatory information</u> Irritating to eyes, respiratory system and skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 16: Other Information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. G-Biosciences 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.

G-Biosciences/Genotech, St. Louis, MO, USA

Material Safety Data Sheet

Section 1: Chemical Identification

Name: Mussel glycogen Solution

Catalog #: a component of product Cat# 786-301 indicated above.

Section 2: Composition/Information on Ingredients

Contains: Mussel Glycogen [CAS#9005-79-2]

Section 3: <u>Hazards Identification</u>

Label precautionary statements. Irritating to eyes, respiratory system, and, skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 4: First-Aid Measures

After eye contact: Immediately flush eyes with copious amounts of water for at least 15 minutes.

After skin contact: Immediately wash skin with soap and copious amounts of water. Wash contaminated clothing before reuse.

<u>After Inhalation:</u> None needed for non-volatile items. For items emitting vapor and dust particles: Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

After swallowing: Wash out mouth with water provided person is conscious. Call a physician.

Section 5: Fire Fighting Measures

Extinguishing Agents: Water spray, Carbon dioxide, dry chemical powder or appropriate foam.

Special fire fighting procedures: None needed

Unusual fire and explosions hazards: Not known

Section 6: Accidental Release Measures

Human Safety Precautions: Chemical safety goggles, rubber boots and rubber gloves.

Cleaning/Collecting Measures: Mop up, place in a bag and hold for waste disposal.

Section 7: Handling and Storage

Refer to section 8.

Section 8: Exposure Controls/Personal Protection

Personal protective equipment: Chemical safety goggles, compatible chemical-respirator, NIOSH/MSHA-approved respirator, and safety shower and eye bath.

General Protective and Hygienic Measures: Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Irritant. Keep tightly closed. Store in a cool dry place.

Section 9: Physical and Chemical Properties

Form: Liquid

Color: Clear

Odor: None

Section 10: Stability and Reactivity

Thermal Decomposition/Conditions to be Avoided: No decomposition if used according to specifications.

Dangerous Reactions: No dangerous reactions known.

Dangerous Products of Decomposition: No known dangerous decomposition products.

Section 11: Toxicological Information

Primary Irritant Effects: Harmful if inhaled or ingested.

On the skin: Material is irritating to skin and mucous membranes.

On the eye: Causes eye irritation.

Sensitization: No sensitizing effects known.

Section 12: Ecological Information

Data not yet available

Section 13: Disposal Considerations

Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Hand over to hazardous waste disposers. Observe all federal, state and local environmental regulations.

Section 14: Transport Information

Not dangerous goods. Safe for all transport.

Section 15: Regulatory information

Irritating to eyes, respiratory system and skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 16: Other Information

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Material Safety Data Sheet

Section 1: Chemical Identification

Name: TE Buffer

Catalog #: a component of product Cat.# 786-301 indicated above.

Section 2: Composition/Information on Ingredients

Contains 12.21% Tris [CAS# 77-86-1] and 3.7% Ethylene diamine tetracetic acid; EDTA [CAS# 6381-92-6] in DI water.

Section 3: <u>Hazards Identification</u>

Label precautionary statements. Irritating to eyes, respiratory system, and, skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 4: First-Aid Measures

After eye contact: Immediately flush eyes with copious amounts of water for at least 15 minutes.

After skin contact: Immediately wash skin with soap and copious amounts of water. Wash contaminated clothing before reuse.

<u>After Inhalation:</u> None needed for non-volatile items. For items emitting vapor and dust particles: Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

After swallowing: Wash out mouth with water provided person is conscious. Call a physician.

Section 5: Fire Fighting Measures

Extinguishing Agents: Water spray, Carbon dioxide, dry chemical powder or appropriate foam.

Special fire fighting procedures: None needed

Unusual fire and explosions hazards: Not known

Section 6: Accidental Release Measures

Human Safety Precautions: Chemical safety goggles, rubber boots and rubber gloves.

Cleaning/Collecting Measures: Mop up, place in a bag and hold for waste disposal.

Section 7: Handling and Storage

Refer to section 8.

Section 8: Exposure Controls/Personal Protection

Personal protective equipment: Chemical safety goggles, compatible chemical-respirator, NIOSH/MSHA-approved respirator, and safety shower and eye bath.

General Protective and Hygienic Measures: Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Irritant. Keep tightly closed. Store in a cool dry place.

Section 9: Physical and Chemical Properties

Form: Liquid

Color: Clear

Odor: None

Section 10: Stability and Reactivity

Thermal Decomposition/Conditions to be Avoided: No decomposition if used according to specifications.

Dangerous Reactions: No dangerous reactions known.

Dangerous Products of Decomposition: No known dangerous decomposition products.

Section 11: Toxicological Information

Primary Irritant Effects: Harmful if inhaled or ingested.

On the skin: Material is irritating to skin and mucous membranes.

On the eye: Causes eye irritation.

Sensitization: No sensitizing effects known.

Section 12: Ecological Information

Data not yet available

Section 13: Disposal Considerations

Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Hand over to hazardous waste disposers. Observe all federal, state and local environmental regulations.

Section 14: Transport Information

Not dangerous goods. Safe for all transport.

Section 15: Regulatory information

Irritating to eyes, respiratory system and skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 16: Other Information

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G-Biosciences/Genotech, St. Louis, MO, USA

Material Safety Data Sheet

Section 1: Chemical Identification

Name: Longlife[™] RNase

Catalog #: a component of product Cat.# 786-301 indicated above.

Section 2: Composition/Information on Ingredients

Stabilized preparation of RNase enzyme, CAS# 9001-99-4

Section 3: Hazards Identification

Label precautionary statements. Irritating to eyes, respiratory system, and, skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 4: First-Aid Measures

After eye contact: Immediately flush eyes with copious amounts of water for at least 15 minutes.

After skin contact: Immediately wash skin with soap and copious amounts of water. Wash contaminated clothing before reuse.

<u>After Inhalation:</u> None needed for non-volatile items. For items emitting vapor and dust particles: Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

After swallowing: Wash out mouth with water provided person is conscious. Call a physician.

Section 5: Fire Fighting Measures

Extinguishing Agents: Water spray, Carbon dioxide, dry chemical powder or appropriate foam.

Special fire fighting procedures: None needed

Unusual fire and explosions hazards: Not known

Section 6: Accidental Release Measures

Human Safety Precautions: Chemical safety goggles, rubber boots and rubber gloves.

Cleaning/Collecting Measures: Mop up, place in a bag and hold for waste disposal.

Section 7: Handling and Storage

Refer to section 8.

Section 8: Exposure Controls/Personal Protection

Personal protective equipment: Chemical safety goggles, compatible chemical-respirator, NIOSH/MSHA-approved respirator, and safety shower and eye bath.

General Protective and Hygienic Measures: Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Irritant. Keep tightly closed. Store in a cool dry place.

Section 9: Physical and Chemical Properties

Form: Liquid

Color: Clear

Odor: None

Section 10: Stability and Reactivity

Thermal Decomposition/Conditions to be Avoided: No decomposition if used according to specifications.

Dangerous Reactions: No dangerous reactions known.

Dangerous Products of Decomposition: No known dangerous decomposition products.

Section 11: Toxicological Information

Primary Irritant Effects: Harmful if inhaled or ingested.

On the skin: Material is irritating to skin and mucous membranes.

On the eye: Causes eye irritation.

Sensitization: No sensitizing effects known.

Section 12: Ecological Information

Data not yet available

Section 13: Disposal Considerations

Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Hand over to hazardous waste disposers. Observe all federal, state and local environmental regulations.

Section 14: Transport Information

Not dangerous goods. Safe for all transport.

Section 15: <u>Regulatory information</u> Irritating to eyes, respiratory system and skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 16: Other Information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. G-Biosciences 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.

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