

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY/UNDERTAKING

1.1. Products identifiers

Product Name: Isotyping kit, Mouse/Human/Bovine/Rat IgG quantification kit and Protein A quantification kit
Catalog number: RDB3255, RDB3256, RDB3257, RDB3258, RDB3259 and RDB3260.
Components: TMB
Stop solution

It has been determined that the remaining components are not classified as hazardous chemicals due to their physical and/or chemical nature and/or concentration in solution.

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified Uses: For Research Only

1.3. Details of the supplier of the safety data sheet

Company:	RD-BIOTECH S.A.S.	Phone: +33 3 81 53 88 37
	Technopole TEMIS Santé	Internet: www.rd-biotech.com
	18 rue Françoise Dolto	Email address: info@rd-biotech.com
	F-25000 BESANCON	

1.4. Emergency Telephone Number

Emergency phone: ORFILA (INRS): + 33 (0) 1 45 42 59 59
CHEMTREC France: 33-975181407
CHEMTREC (worldwide): +1 703-741-5970 / 1-800-424-9300

2. HAZARDS IDENTIFICATION

See additional safety data sheets.

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY/UNDERTAKING

1.1. Products identifiers

Product Name: TMB
Catalog number: AS29

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified Uses: For Research Only

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2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [GHS/CLP] or 29 CFR 1910.1200 [OSHA]

Flammable liquids (Category 3) – H226
Acute toxicity, Oral (Category 4) – H302
Acute toxicity, Inhalation (Category 4) – H332
Acute toxicity, Dermal (Category 4) – H312
Specific target organ toxicity - single exposure (Category 2) – H371

2.2. Label Elements

Labeling according to Regulation (EC) No 1272/2008 [GHS/CLP]

Pictogram(s):



Signal Word: Warning
Hazard Statement(s): H226 – Flammable liquid and vapor
H301 + H311 + H331 – Harmful if swallowed, in contact with skin or if inhaled
H371 – May cause damage to organs

Precautionary Statement(s): P202 – Do not handle until all safety precautions [on SDS] have been read and understood
 P302 + P350 – IF ON SKIN: Gently wash with plenty of soap and water
 P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Get immediate medical advice/attention
 P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
 P210 – Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
 P260 – Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

2.3. Other Hazards

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable.

3.2. Mixtures

Hazardous Ingredients:	CAS#	EC#	Classification	%
Methanol	67-56-1	200-659-6	Flam. Liq. 3 H225 Acute Tox. 3 H301, H311, H331 STOT SE 1 H370	≤ 30
Dimethylsulfoxide	67-68-5	200-664-3	Skin Irrit. 2 H315 Flam. Liq. 3 H226	≤ 10
Acetone	67-64-1	200-662-2	Flam. Liq. 2 H225 Eye Irrit. 2 H319 STOT SE 3 H336	≤ 10
3-3'-5-5'- Tetramethylbenzidine	64285-73-0	264-769-6	Skin Irrit. 2 H315 Eye Irrit. 2 H319 STOT SE 3 H335	≤ 0.1
Hydrogen Peroxide	7722-84-1	231-765-0	Ox. Liq. 1 H271 Skin Corr. 1A H314 Acute Tox. 4 H302, H332	≤ 0.1

4. FIRST AID MEASURES

4.1. Description of first aid measures

Eye Contact: Check for and remove contact lenses. Immediately flush eyes with copious amounts of water and get immediate medical attention.

Skin Contact: Remove contaminated clothing and wash contact area with mild soap and copious amounts of water. Get medical attention if irritation develops.

Inhalation: If inhaled, remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms worsen.



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RD-Biotech S.A.S.
Technopole TEMIS Santé
18, rue Françoise Dolto
25000 Besançon - France

ISO 9001:2015 certification
RESEARCH TAX CREDIT
APE 7211Z

Tél: +33 (0)3 81 53 88 37
Fax: +33 (0)3 81 53 89 65
Email: info@rd-biotech.com
SIREN: 442 804 266
TVA: FR 41442804266

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Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as collar, tie, belt or waistband. Get immediate medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See section 2.2 and 11.

4.3. Indication of immediate medical attention and special treatment needed

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Extinguish fire using water spray, carbon dioxide, chemical foam, or dry chemical.

5.2. Special hazards arising from the substance or mixture

May produce flammable vapors when heated during fire conditions.

5.3. Precautions for fire-fighters

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

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear chemical resistant clothing, gloves, and eye protection. Wear NIOSH/MSHA approved breathing apparatus.

6.2. Environmental precautions

Keep material away from heat, flame, ignition sources, and reactive materials. Don't allow product to enter drain.

6.3. Methods and materials for containment and cleaning up

Wipe up or absorb spill using inert absorbent and place in a suitable waste container for disposal.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Avoid contact with skin and eyes.
Wash thoroughly after handling.
Avoid breathing vapor.

7.2. Conditions for safe storage, including any incompatibilities

Store in well ventilated area. Keep container tightly closed. Store at 2-8°C.



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7.3. Specific end uses

See section 1.2

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits:

Methanol: *NIOSH REL:* TWA 200 ppm (260 mg/m³) ST 250 ppm (325 mg/m³) [skin]
OSHA PEL: TWA 200 ppm (260 mg/m³)
ACGIH TLV: TWA 200 ppm (262 mg/m³)
STEL 250 ppm (328 mg/m³)

Acetone: *OSHA PEL:* 1,000 ppm (2,400 mg/m³) TWA
NIOSH REL: 250 ppm (590 mg/m³) TWA
ACGIH: 500 ppm (1,188 mg/m³) TWA
750 ppm (1,782 mg/m³) STEL

8.2. Exposure controls

Personal Protective Equipment (PPE):

Eye/Face protection. Safety glasses or goggles are required.

Skin protection. Protective clothing is required.

Hand protection. Chemical resistant gloves are required. Glove material must be resistant to the components of this product. Consult glove manufacturer for specific recommendations of appropriate material and thickness of glove.

Respiratory protection. Avoid breathing vapor.

Environmental exposure controls. Avoid releasing large quantities into the environment. No additional information.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State: Liquid.

Color: Translucent, clear to slightly yellow.

Odor: Mild alcohol odor.

Odor Threshold: Unknown.

pH: Unknown.

Melting Point/ Freezing Point: Unknown.

Initial Boiling Point: Unknown.

Flash Point: Unknown.

Evaporation Rate: Unknown.

Flammability (solid, gas): Unknown.

Upper/Lower Flammability Limits: Unknown.

Vapor Pressure: Unknown.

Vapor Density: Unknown.

Relative Density: Unknown.

Solubility(ies): Water.

Partition Coefficient (n-octanol/water): Unknown.



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Auto-Ignition Temperature: Unknown.
Decomposition Temperature: Unknown.
Viscosity: Unknown.
Explosive Properties: Not explosive.
Oxidizing Properties: Unknown.

9.2. Other safety information

No data available.

10. STABILITY AND REACTIVITY

10.1. Reactivity

No relevant data available.

10.2. Chemical stability

Stable under normal temperatures and pressures.

10.3. Possibility of hazardous reactions

No hazardous reactions known.

10.4. Conditions to avoid

Fire, static electricity, direct sunlight.

10.5. Incompatible materials

Strong oxidizing agents such as sulfuric acid, nitrates, and perchlorates.

10.6. Hazardous decomposition products

May release carbon dioxide, carbon monoxide, nitrogen oxides, and formaldehyde under fire conditions.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute Toxicity.

Methanol:

Oral LD50

LDLO Oral - Human - 143 mg/kg and diarrhea.

LD50 Oral - rat - 1,187 - 2,769 mg/kg

Inhalation LC50

LC50 Inhalation - rat - 4 h - 128.2 mg/l

LC50 Inhalation - rat - 6 h - 87.6 mg/l

Dermal LD50

LD50 Dermal - rabbit - 17,100 mg/kg

Dimethylsulfoxide:

LD50 Oral - rat - 14,500 mg/kg

LC50 Inhalation - rat - 4 h - 40250 ppm

LD50 Dermal - rabbit - > 5,000 mg/kg

Skin Corrosion/Irritation.

May be irritating to skin and mucous membranes.

Serious Eye Damage/Irritation.

May be irritating to eye.

Respiratory or skin sensitization.

No relevant data available.



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Germ Cell Mutagenicity.

No relevant data available.

Carcinogenicity

International Agency for Research on Cancer (IARC).

None of the components are listed.

National Toxicology Program (NTP).

None of the components are listed.

12. ECOLOGICAL INFORMATION

12.1. Toxicity

No data available.

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

Miscible in water. May spread in water systems. This component is non-volatile.

12.5. Results of PBT and vPvB assessment

PBT: This mixture does not contain any substances that are assessed to be a PBT.

vPvB: This mixture does not contain any substances that are assessed to be a vPvB.

Other adverse effects

No data available.

13. DISPOSAL CONSIDERATIONS

13.1. Waste disposal methods

Sewage disposal is discouraged. Waste should not be disposed of by release to sewers. Dispose waste in accordance with federal, state and local environmental control regulations.

Product/Packaging Disposal

Final decisions on the appropriate waste management method must be in line with local, regional and national regulation.

Other Disposal Recommendations

No relevant data available

14. TRANSPORT INFORMATION

14.1. UN-Number

1230

14.2. UN proper shipping name

Methanol

14.3. Transport hazard class(es)

Class 3

14.4. Packaging group



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Group II

14.5. Environmental hazards

Marine pollutant: No

14.6. Special precautions for users

Not applicable

15. REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2. Chemical safety assessment

For this product a chemical safety assessment was not carried out

16. OTHER INFORMATION

This company shall not be held liable for any damage resulting from handling or from contact with the above product. This material must only be handled by suitably qualified experienced scientists in appropriately equipped and authorized facilities. The above information is believed to be correct but does not purport to be all inclusive and should be used as a guide only for experienced personnel. Always consult your safety advisor and follow appropriate local and national safety legislature. The absence of warning must not, under any circumstance, be taken to mean that no hazard exists.



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1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY/UNDERTAKING

1.1. Products identifiers

Product Name: Stop Solution
Catalog number: AS40

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified Uses: For Research Only

1.3. Details of the supplier of the safety data sheet

Company:	RD-BIOTECH S.A.S. Technopole TEMIS Santé 18 rue Françoise Dolto F-25000 BESANCON	Telephone: +33 3 81 53 88 37 Internet: www.rd-biotech.com Email address: info@rd-biotech.com
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Emergency Tel: ORFILA (INRS): + 33 (0) 1 45 42 59 59
CHEMTREC France: 33-975181407
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2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [GHS/CLP] or 29 CFR 1910.1200 [OSHA]
Corrosive to Metals (Category 1), H290

2.2. Label Elements

Labeling according to Regulation (EC) No 1272/2008 [GHS/CLP]

Pictogram:



Signal Word:	Warning
Hazard Statement(s):	H290 May be corrosive to metals
Precautionary Statement(s):	P234 Keep only in original packaging P390 Absorb spillage to prevent material damage

2.3. Other Hazards

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable.

3.2. Mixtures

Hazardous Ingredients:	CAS#	EC#	Classification	%
Hydrochloric Acid	7647-01-0	231-595-7	Met. Corr. 1 - H290 Skin Corr. 1B - H314 STOT SE 3 - H335	≥ 5 - < 9

4. FIRST AID MEASURES

4.1. Description of first aid measures

After inhalation: fresh air.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

4.2. Most important symptoms and effects, both acute and delayed

See section 2.2 and 11.

4.3. Indication of immediate medical attention and special treatment needed

No data available.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given

5.2. Special hazards arising from the substance or mixture

Hydrogen chloride gas.

Not combustible.

5.3. Precautions for fire-fighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4. Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.



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6. ACCIDENTIAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: Protective equipment see section 8. For personal protection see section 8.

6.2. Environmental precautions

Do not let product enter drains.

6.3. Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent and neutralizing material. Dispose of properly. Clean up affected area.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling

Observe label precautions.

Hygiene measures

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

For precautions see section 2.2.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions

No metal containers.

Tightly closed.

Recommended storage temperature see product label.

Storage class

Storage class (TRGS 510): 8B: Non-combustible, corrosive hazardous materials.

7.3. Specific end uses

See section 1.2

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Ingredients with workplace control parameters



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8.2. Control parameters

Personal Protective Equipment

Eye/Face protection

Safety glasses

Skin protection

Protective clothing is required. Chemical resistant gloves are required. Glove material must be resistant to the components of this product. Consult glove manufacturer for specific recommendations of appropriate material and thickness of glove.

Respiratory protection.

Recommended Filter type: filter E-(P2)

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Color	Colorless
Odor	Odorless
Melting point/freezing point	No data available
Initial boiling point and boiling range	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Flash point	Not applicable
Autoignition temperature	No data available
Decomposition temperature	No data available
pH	< 1 at 20 °C
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
Water solubility	At 20 °C soluble
Partition coefficient: n-octanol/water	No data available
Vapor pressure	No data available
Density	ca.1,03 g/cm ³ at 20 °C
Relative density	No data available
Relative vapor density	No data available
Particle characteristics	No data available
Explosive properties	Not classified as explosive.
Oxidizing properties	None

9.2. Other safety information

No data available.



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10. STABILITY AND REACTIVITY

10.1. Reactivity

See section 10.3

10.2. Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

10.3. Possibility of hazardous reactions

Generates dangerous gases or fumes in contact with:

Metals

Violent reactions possible with:

The generally known reaction partners of water.

10.4. Conditions to avoid

No information available.

10.5. Incompatible materials

Metals, metal alloys

10.6. Hazardous decomposition products

In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Mixture

Acute toxicity

Oral: No data available

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Remarks: Possible damages:

slight irritation

Serious eye damage/eye irritation

Remarks: Possible damages:

slight irritation

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure



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The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

Based on available data the classification criteria are not met.

11.2. Additional Information

Endocrine disrupting properties

Product:

Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Irritant effects: However, when the product is handled appropriately, hazardous effects are unlikely to occur.

Handle in accordance with good industrial hygiene and safety practice.

Components

Hydrochloric Acid

Acute toxicity

Oral: No data available

Inhalation: Cough Difficulty in breathing

Inhalation: absorption

Symptoms: mucosal irritations, Cough, Shortness of breath, Inhalation may lead to the formation of oedemas in the respiratory tract., Damage of respiratory tract, tissue damage

Dermal: No data available

Skin corrosion/irritation

Skin - reconstructed human epidermis (RhE)

Result: Corrosive

(OECD Test Guideline 431)

Serious eye damage/eye irritation

Eyes - Bovine cornea

Result: Corrosive

(OECD Test Guideline 437)

Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: negative

(OECD Test Guideline 406)

Germ cell mutagenicity

Test Type: Chromosome aberration test in vitro

Test system: Chinese hamster ovary cells

Result: Conflicting results have been seen in different studies.

Carcinogenicity

Carcinogenicity - Did not show carcinogenic effects in animal experiments. (IUCLID)

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

May cause respiratory irritation.

The substance or mixture is classified as specific target organ toxicant, single



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exposure, category 3 with respiratory tract irritation.

Acute inhalation toxicity - mucosal irritations, Cough, Shortness of breath,

Inhalation may lead to the formation of oedemas in the respiratory tract.,

Damage of respiratory tract, tissue damage

Specific target organ toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

No aspiration toxicity classification

12. ECOLOGICAL INFORMATION

12.1. Toxicity

No data available.

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

Miscible in water. May spread in water systems. This component is non-volatile.

12.5. Mobility in soil

PBT: This mixture does not contain any substances that are assessed to be a PBT.

vPvB: This mixture does not contain any substances that are assessed to be a vPvB.

12.6. Endocrine disrupting properties

Product:

Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7. 12.7 Other adverse effects

Discharge into the environment must be avoided.

Components

Hydrochloric Acid

No data available

Toxicity to fish LC50 - *Gambusia affinis* (Mosquito fish) - 282 mg/l - 96 h

Remarks: (IUCLID)



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13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Sewage disposal is discouraged. Waste should not be disposed of by release to sewers. Dispose waste in accordance with federal, state and local environmental control regulations.

14. TRANSPORT INFORMATION

14.1. UN-Number

ADR/RID – IMDG- IATA: 1789

14.2. UN proper shipping name

ADR/RID: HYDROCHLORIC ACID ; IMDG: HYDROCHLORIC ACID ; IATA: Hydrochloric acid

14.3. Transport hazard class(es)

ADR/RID – IMDG - IATA: 8

14.4. Packaging group

ADR/RID – IMDG - IATA: III

14.5. Environmental hazards

No

14.6. Special precautions for users

Not applicable.

15. REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2. Chemical safety assessment

For this product a chemical safety assessment was not carried out

16. OTHER INFORMATION

This company shall not be held liable for any damage resulting from handling or from contact with the above product. This material must only be handled by suitably qualified experienced scientists in appropriately equipped and authorized facilities. The above information is believed to be correct but does not purport to be all inclusive and should be used as a guide only for experienced personnel. Always consult your safety advisor and follow appropriate local and national safety legislature. The absence of warning must not, under any circumstance, be taken to mean that no hazard exists.



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RD-Biotech S.A.S.
Technopole TEMIS Santé
18, rue Françoise Dolto
25000 Besançon - France

ISO 9001:2015 certification
RESEARCH TAX CREDIT
APE 7211Z

Tél: +33 (0)3 81 53 88 37
Fax: +33 (0)3 81 53 89 65
Email: info@rd-biotech.com
SIREN: 442 804 266
TVA: FR 41442804266

A company of the group



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