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TACS® APOPTOSIS KITS - ANCILLARY PRODUCTS

CATALOG #	PRODUCT DESCRIPTION, STORAGE AND USE
4800-30-BC	• **TACS-Blue Label™ Conversion Kit** - This module contains 1 bottle of TACS-Blue Label (3.0 mL), 1 bottle of Blue Strep-HRP Diluent (7.5 mL), and 1 bottle of Nuclear Fast Red (50 mL). • Store TACS-Blue Label and Blue Strep-HRP Diluent at 2-8 °C. Store bottle of Nuclear Fast Red at room temperature. • This detection module is tailored for researchers wanting to convert their TACS® 2 DAB Kit to a Blue Label Kit and provides only a diluent for Strep-HRP, the blue yielding HRP-substrate in TACS-Blue Label and Nuclear Fast Red Counterstain.
4800-30-BL	• **TACS-Blue Label Module** - This module contains 1 bottle of TACS-Blue Label (3.0 mL) and 1 bottle of Blue Strep-Diluent (7.5 mL). • Store bottles at 2-8 °C. TACS-Blue Label is ready to use. • Use 50 µL of TACS-Blue Label per sample. A faint blue coloration may be observed and does not affect stability or activity of the reagent. •TACS-Blue Label is a peroxidase substrate that produces a stable insoluble blue reaction product at the site of peroxidase activity • Blue Strep-Diluent is a proprietary Strep-HRP diluent formulated to be used in TUNEL assays, immunohistochemistry, and *in situ* hybridization techniques. • TACS-Blue Label Module is a component of TACS 2 TdT-Blue Label *In Situ* Apoptosis Detection Kit (R&D Systems, Catalog # 4811-30-K) and TACS•XL®-Blue Label *In Situ* Apoptosis Detection Kit (R&D Systems, Catalog # 4828-30-BK).
4800-30-01	• **Proteinase K Solution** - 1 vial (50 µL) of Proteinase K Solution. • Store unopened vial at -20 °C. • Thaw Proteinase K at room temperature, then place on ice. Dilute Proteinase K 1:50 using ice cold deionized water. • Proteinase K is used for permeablizing cells and tissues prior to labeling using any of the TACS·XL or TACS *In Situ* Apoptosis Detection Kits. Proteinase K can also be used to remove contaminating/unwanted nucleases or other proteins.
4800-30-07	• **Diaminobenzidine** - 1 bottle (3.75 mL) of Diaminobenzidine (DAB) solution is provided. • Store unopened bottle at -20 °C protected from light. It is not recommended to freeze thaw DAB more than 3 times. If required, aliquot in smaller volumes and store at -20 °C protected from light. • To prepare, thaw DAB Solution at 37 °C for 30 minutes. Combine 1X PBS (50 mL), DAB Solution (250 µL), DAB Enhancer (0-50 µL), and 30% hydrogen peroxide (50 µL). For each labeling procedure use fresh 30% hydrogen peroxide, then discard any remaining solution. • Diaminobenzidine is a component of the TACS 2 TdT-DAB *In Situ* Apoptosis Detection Kit (R&D Systems, Catalog # 4810-30-K) and the TACS•XL DAB *In Situ* Apoptosis Detection Kit (R&D Systems, Catalog #4828-30-DK).
4800-30-09	• **DAB Enhancer Reagent** - 1 vial (1.0 mL) of DAB Enhancer. • To prepare, thaw DAB Solution at 37 °C for 30 minutes. Combine 1X PBS (50 mL), DAB Solution (250 µL), DAB Enhancer (0-50 µL), and 30% hydrogen peroxide (50 µL). For each labeling procedure use fresh 30% hydrogen peroxide, then discard any remaining solution. • Diaminobenzidine is a component of the TACS 2 TdT-DAB *In Situ* Apoptosis Detection Kit (R&D Systems, Catalog # 4810-30-K) and the TACS•XL DAB *In Situ* Apoptosis Detection Kit (R&D Systems, Catalog # 4828-30-DK).

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4800-30-14

- **Strep-Fluorescein** - 1 vial (30 µL) of a Strep-Fluorescein solution.
- Store unopened vial at -20 °C.
- Optimal concentrations range from 1:50 dilution to 1:1000 dilution, depending upon application.
- The characteristics of the fluorescent conjugate are summarized here: absorbance maximum 492 nm; emission maximum 520 nm; Color: Green.
- Strep-Fluorescein is a component of the TACS® 2 TdT-Fluor *In Situ* Apoptosis Detection Kit (R&D Systems, Catalog # 4812-30-K).

4800-30-17

- **Nuclear Fast Red** - 1 bottle (50 mL) of ready-to-use Nuclear Fast Red counterstain.
- Store bottle at room temperature. Nuclear Fast Red may be reused many times. Store in a closed container to prevent evaporation.
- If a precipitate forms, warm solution in a 65 °C water bath for 10-15 minutes and return to room temperature before using.
- Nuclear Fast Red counterstain is an ideal counterstain for kits employing the TACS Blue Label chromogenic substrate.

4800-30-18

- **Methyl Green 1%** - 1 bottle (50 mL) of a ready-to-use Methyl Green solution.
- Store bottle at room temperature.
- Methyl Green may be reused many times. Store in a closed container to prevent evaporation. If a precipitate forms, filter sample through Whatman 3 MM filter paper.
- Methyl Green is a component of the TACS 2 TdT DAB *In Situ* Apoptosis Detection Kit (R&D Systems, Catalog # 4810-30-K) and the TACS•XL Basic *In Situ* Apoptosis Detection Kit (R&D Systems, Catalog # 4828-30-K).

4800-30-19

- **Red Counterstain C** - 1 bottle (50 mL) of ready-to-use Red Counterstain C.
- Store unopened bottle at room temperature. Red Counterstain C may be reused many times. If a precipitate is visible, solubilize at 37 °C before use.
- Red Counterstain C is a component of the VasoTACS *In Situ* Apoptosis Detection Kit (R&D Systems, Catalog # 4826-30-K).

4810-30-02

- **10X TdT Labeling Buffer** - 1 bottle (100 mL) of 10X TdT Labeling Buffer consisting of TACS Safe™-TdT Buffer (1M), RIA-Grade BSA (0.5 mg/mL), and 2-mercaptoethanesulfonic acid (0.6 mM).
- Store bottle at 2-8 °C.
- The concentrated 10X TdT labeling buffer is a safe, cacodylate-free solution developed for use in TUNEL assays.
- Store unopened bottle at 2-8 °C.

4810-30-03

- **10X TdT Stop Buffer** - 1 bottle (100 mL) of 10X TdT Stop Buffer consisting of 0.1 M EDTA, pH 8.0.
- Store bottle at 2-8 °C.
- The 10X TdT Stop Buffer is used stop the activity of the TdT Enzyme in TUNEL labeling assays.

4810-30-04

- **TdT dNTP Mix** - 1 vial (35 µL) of TdT dNTP Mix.
- Store the unopened product at -20 °C.
- The TdT dNTP mix is a 0.25 mM biotinylated nucleotide solution included in the TACS® TdT, TACS speciality and TACS•XL Kits for TUNEL labeling.

4810-30-05

- **Terminal Deoxynucleotidyl Transferase (TdT) Enzyme** - 1 vial (30 µL) of TdT Enzyme.
- Store the product at -20 to -70 °C. Use a manual defrost freezer and avoid repeated freeze-thaw cycles.
- Terminal Deoxynucleotidyl Transferase (TdT) Enzyme is a component of the TACS•XL Basic *In Situ* Apoptosis Detection Kit (R&D Systems, Catalog # 4828-30-K).

4810-90-09

- **Cobalt Cation** - 3 vials (30 µL/vial) of 50X Cobalt Cation.
- Store unopened bottle at -20 °C.
- Cobalt is one of the cations used to optimize TUNEL labeling in TACS TdT kits.

4810-90-10

- **Magnesium Cation** - 3 vials (30 µL/vial) of 50X Magnesium Cation.
- Store bottle at -20 °C.
- Magnesium is one of the cations used to optimize TUNEL labeling in TACS TdT kits.

4810-90-14

- **Manganese Cation** - 2 vials (50 µL/vial) of 50X Manganese Cation.
- Store unopened bottle at -20 °C.
- Manganese is one of the cations used to optimize TUNEL labeling in TACS TdT kits.

4820-30-13

- **Blue Counterstain** - 1 bottle (50 mL) of ready-to-use Blue Counterstain.
- Store bottle at room temperature. Blue Counterstain may be reused many times. Store in a closed container to prevent evaporation.
- If a precipitate forms, filter sample through Whatman 3 MM paper.

4820-60

- **NeuroPore™** - 2 bottles (5.0 mL/bottle) of a ready-to-use non-proteolytic permeabilization and blocking reagent.
- Store bottle at 2-8 °C.
- NeuroPore is a component in the NeuroTACS™ *In Situ* Apoptosis Detection Kit (R&D Systems, Catalog # 4820-30-K).

4817-60-02

- **10X TdT Labeling Buffer** - 1 bottle (20 mL) of 10X TdT Labeling Buffer consisting of TACS Safe™-TdT Buffer (1M), RIA-Grade BSA (0.5 mg/mL), and 2-mercaptoethanesulfonic acid (0.6 mM).
- Store bottle at 2-8 °C.
- The concentrated 10X TdT labeling buffer is a safe, cacodylate-free solution developed for use in TUNEL assays.

4817-60-03

- **10X TdT Stop Buffer** - 1 bottle (20 mL) of 10X TdT Stop Buffer consisting of 0.1 M EDTA, pH 8.0.
- Store bottle at 2-8 °C.
- The 10X TdT Stop Buffer is used stop the activity of the TdT enzyme in TUNEL labeling assays.

4817-60-04

- **Propidium Iodide/RNAse** - 1 vial (1.0 mL) of Propidium Iodide/RNAse solution.
- Store vial at 2-8 °C.
- The propidium iodide/RNAse solution can be added directly to the sample just prior to flow cytometry. Addition of, 10 µL per 500 µL sample is recommended. Incubate at room temperature for 5 minutes then analyze.
- Propidium Iodide/RNAse is a component of FlowTACS™ Apoptosis Detection Kit (R&D Systems, Catalog # 4817-60-K).

4822-96-08

- **TACS-Sapphire™** - 1 bottle (10 mL) of TACS-Sapphire. Store the unopened product at 2-8 °C.
- Use substrate solution at room temperature, add 100 µL of solution per well.
- TACS-Sapphire is ready to use. Protect from light.
- TACS-Sapphire is a non-toxic colorimetric substrate. It is commonly used with horseradish peroxidase, which converts the substrate into a blue product that can be measured at 630 nm. The reaction can be stopped with acid and the product will turn yellow, allowing endpoint reading at 450 nm.
- TACS-Sapphire is component of the HT Titer TACS™ Assay Kit (R&D Systems, Catalog # 4822-96-K).

4828-30-04

- **B dNTP Mix** - 1 vial (30 µL) of B dNTP Mix is provided.
- Store unopened vial at -20 °C.
- Thaw B dNTP Mix at room temperature, then place on ice. Dilute B dNTP Mix 1:50 in 1X TdT Labeling Buffer along with TdT Enzyme.
- B dNTP Mix is a component of multiple TUNEL Kits (R&D Systems, Catalog # 4828-30-K, 4828-30-BK, and 4828-30-DK).

4828-30-12

- **Strep-Diluent** - 1 bottle (7.5 mL) of Strep-Diluent.
- Store bottle at 2-8 °C.
- Strep-Diluent is an optimized blocking reagent specifically developed to dilute Strep-HRP and block unspecific binding in the TACS·XL DAB *In Situ* Apoptosis Detection Kit (R&D Systems, Catalog # 4828-30-DK) and the TACS·XL Blue Label *In Situ* Apoptosis Detection Kit (R&D Systems, Catalog # 4828-30-BK).

4876-05-01

- **Cytonin™** - 1 bottles (6.0 mL) of a protease free, saponin-based buffer designed specifically for *in situ* detection of apoptosis.
- Store bottles at 2-8 °C. Cytonin is ready for use. Discard if solution is cloudy.
- Cytonin is used when protease treatment must be avoided.
- Cytonin is a component of the TACS 2 TdT DAB *In Situ* Apoptosis Detection Kit (R&D Systems, Catalog # 4810-30-K) and the TACS 2 TdT-Blue Label *In Situ* Apoptosis Detection Kit (R&D Systems, Catalog # 4811-30-K).

4876-05-02

- **Cytonin** - 2 bottles (5.0 mL/bottle) of a protease free, saponin-based buffer designed specifically for *in situ* detection of apoptosis.
- Store bottles at 2-8 °C. Cytonin is ready for use. Discard if solution is cloudy.
- Cytonin is used when protease treatment must be avoided.
- Cytonin is a component of the TACS 2 TdT DAB *In Situ* Apoptosis Detection Kit (R&D Systems, Catalog # 4810-30-K) and the TACS 2 TdT-Blue Label *In Situ* Apoptosis Detection Kit (R&D Systems, Catalog # 4811-30-K).