**BACKGROUND**

Embryonic stem cells have the ability to remain undifferentiated and proliferate indefinitely in vitro, while maintaining the potential to differentiate into derivatives of all three embryonic germ layers. Undifferentiated human embryonal carcinoma (EC) cells are the stem cells of teratocarcinomas and are characterized by the expression of stage specific embryonic antigens SSEA-1 and SSEA-3, TRA-2-39, TRA-2-54 and the high molecular weight glycoproteins TRA-1-60 and TRA-1-81. In addition, SSEA-1, SSEA-3 and SSEA-4 are markers that characterize embryonic stem (ES) and embryonic germ (EG) cells. Specifically, undifferentiated cells from the human ES cell line H7 express SSEA-3, SSEA-4, TRA-1-60 and TRA-1-81, but not SSEA-1. Interferon induces expression of SSEA-3 and SSEA-4 in EC cells without inhibiting their growth or inducing their differentiation.

**CHROMOSOMAL LOCATION**

Genetic locus: FUT4 (human) mapping to 11q21; Fut4 (mouse) mapping to 9 A 2.

**SOURCE**

SSEA-1 (480) is a mouse monoclonal antibody raised against X-irradiated F9 teratocarcinoma stem cells.

**PRODUCT**

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SSEA-1 (480) is available conjugated to agarose (sc-21702 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-21702 HRP), 200 µg/ml, for WB, IHCP and ELISA; and to either phycoerythrin (sc-21702 PE), fluorescein (sc-21702 FITC) or Alexa Fluor® 488 (sc-21702 AF488) or Alexa Fluor® 647 (sc-21702 AF647), 200 µg/ml, for WB (RGB), IF, IHCP and FCM.

In addition, SSEA-1 (480) is available conjugated to either PerCP (sc-21702 PerCP), PerCP-Cy5.5 (sc-21702 PCPC5) or Alexa Fluor® 405 (sc-21702 AF405), 100 tests in 2 ml, for IF, IHCP and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA.

**APPLICATIONS**

SSEA-1 (480) is recommended for detection of SSEA-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Molecular Weight of SSEA-1: 220 kDa.

Positive Controls: human liver extract: sc-363766 or mouse kidney extract: sc-2255.

**STORAGE**

Store at 4°C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

**RESEARCH USE**

For research use only, not for use in diagnostic procedures.

**DATA**

SSEA-1 (480): sc-21702. Western blot analysis of SSEA-1 expression in mouse kidney tissue extract.


**SELECT PRODUCT CITATIONS**


**PROTOCOLS**

See our web site at www.scbt.com for detailed protocols and support products.