TX A_2 Analog U-46619 (Research Use Only) Catalog No. 107462

Product Description
U-46619 is a stable analog of the endoperoxide prostaglandin H_2, and a TP receptor agonist.[1] It exhibits properties similar to thromboxane A_2. Its concentration is solubility dependent. See Procedure Notes below.

Intended Use
U-46619 causes platelet shape change and aggregation, and contraction of vascular smooth muscle.[2,3] Mean EC50 values for shape change in human, rat, and rabbit platelets are 4.8, 6.0, and 7.3 nM respectively, and for platelet aggregation are 82, 145, and 65 nM, respectively.[4]

Platelet activation by U-46619 is mediated largely by ADP released from platelet-dense granules. Polymorphonuclear leukocytes may function as anti-aggregatory agents in platelet aggregation induced by U-46619.[5]

Precautions
U-46619 is supplied as a solution in methyl acetate. It is intended for ***RESEARCH USE ONLY*** by professional laboratories. The technical data provided above is for guidance only. For lot specific data refer to the Certificate of Analysis for this lot.

Materials Provided
TX A_2 Analog, one 1mg vial.

Materials Required But Not Provided
1. Platelet Aggregometer
2. Pipettor 10-300uL – and Pipette tips
3. Aggregometer tubes
4. Plastic coated stir bars

Reagent Storage
U-46619 may be stored in its original container at – 20 ºC. Aqueous solutions are stable for day of use only.

Reconstitution
See Procedure Notes.

Test Procedure For LTA
Platelet Aggregometer:

Bio/Data PAP 8E: Follow manual instructions to set up User Defined Test.

Other: Follow manufacturer's instructions.

Quality Control
Follow established laboratory procedures.
To assure proper and consistent instrument performance, the periodic use of the Bio/Data LTA Check™ Performance Verification Test kit is recommended. Including a specimen from a known donor on each day of use is also a common practice.

Expected Values
The laboratory must establish its own expected values when using this reagent.

Limitations
Limitations and interferences are not well established.

Performance Characteristics
This is a *Research Use Only* product. Performance characteristics have not been established.

Procedure Notes
U-46619 is supplied as a solution in methyl acetate. To change the solvent, simply evaporate the methyl acetate under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO, ethanol, and dimethyl formamide purged with an inert gas can be used. The solubility of U-46619 in these solvents is approximately 100 mg/mL. Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant since organic solvents may have physiological effects at low concentrations. If an organic solvent-free solution of U-46619 is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of U-46619 in PBS (pH 7.2) is approximately 2 mg/ml.

References

1.Abramovitz, M., Adam, M., Boie, Y., et al. The utilization of recombinant prostanoid receptors to determine the affinities and selectivities of prostaglandins and related analogs. Biochim. Biophys. Acta 1483, 285-293 (2000).

2.Coleman, R.A., Humphrey, P.P.A., Kennedy, I., et al. Comparison of the actions of U-46619, a prostaglandin H_2-analogue, with those of prostaglandin H_2 and thromboxane A_2 on some isolated smooth muscle preparation. Br. J. Pharmacol. 73, 773-778 (1981).

3.Liel, N., Mais, D.E., and Halushka, P.V. Binding of a thromboxane A_2/prostaglandin H_2 agonist [^{3}H]U46619 to washed human platelets. Prostaglandins 33, 789-797 (1987).

4.Tymkewycz, P.M., Jones, R.L., Wilson, N.H., et al. Heterogeneity of thromboxane A_2 (TP-) receptors: Evidence from antagonist but not agonist potency measurements. Br. J. Pharmacol. 102, 607-614 (1991).

5.Zatta A[1], Pandolfo L, Caparrotta L, Prosdocimi M, Dejana E, Del Maschio A. Platelet aggregation induced by the endoperoxide analogue U-46619 is inhibited by polymorphonuclear leukocyte ADPase activity. Arterioscler Thromb. 1993 May; 13(5):696-701.

Warranty

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