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Product Information

Activated charcoal Cell Culture Tested

Product Number **C9157**
Store at Room Temperature

Product Description

This product is routinely used to strip fetal bovine serum of steroids and other organics. It is tested for use in cell culture applications (2 mg/ml).

Norit carbons are furnished in washed, untreated and chemically neutralized types. The washed carbons are generally used for aqueous solutions where the lowest possible soluble ash content is desirable. Washed carbons are also recommended for fine chemical and pharmaceutical operations where a very high purity is necessary. The untreated carbons are for general technical applications, particularly in the field of organic solutions; they have a very high selective adsorption efficiency. Chemically neutralized carbons are used in cases where a neutral pH is essential.

This product is an acid-washed (hydrochloric acid), granular carbon with a particle size distribution as follows: greater than 74 micron, 10 - 15%; greater than 10 microns, 70 - 75%. The surface area, as calculated from the Brunauer, Emmett, Teller equation from nitrogen adsorption and expressed on a dry basis, is 1000 m²/g for this product. A water extract of a suspension of this product will have a pH of 6 - 8. This product is made from peat bog that is kiln burned until there is nothing left but carbon. The "activated" refers to the heating process in the kiln that makes the material porous, therefore helping to remove all impurities. This material is not capable of burning.

Activated charcoal can be expected to adsorb from 1% to 30% of its own weight, depending on the kind of carbon, the type of adsorbate, and the method of treatment; 10% is often assumed for rough estimations.

Granular carbon such as this product is typically used in columns or towers. It is typically used to purify both gases and liquids and generally, the carbon has to be

regenerated for subsequent uses. It can also be used to remove steroid hormones from serum.¹

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Procedure

For removal of steroid hormones from serum, the following procedure is used.¹

1. Mix 4C Norit A charcoal (Product No. C3345 or C9157) and dextran T-70 (Product No. D1390) in a solution containing 0.25 M sucrose, 1.5 mM MgCl₂, 10 mM Hepes, pH 7.4, at final concentrations of 0.25% and 0.0025%, respectively. Incubate overnight at 4 °C.
2. Remove a volume of the dextran-coated charcoal equal to the volume of the serum which is to be stripped and centrifuge the solution at 500 x g for 10 minutes to pellet the charcoal.
3. Remove the supernatant and replace it with the same volume of serum.
4. Vortex the tube to thoroughly mix the charcoal with the serum and incubate for 12 hours at 4 °C (for stripped serum) or incubate twice for 45 minutes at 56 °C (to prepare heat-inactivated, stripped serum).

References

1. Steroid Hormones: A Practical Approach. Green, B. and Leake, R. E., eds., IRL Press, (Oxford: 1987, pp 213-214).

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