Polystyrene

Cat. No.: HY-148163

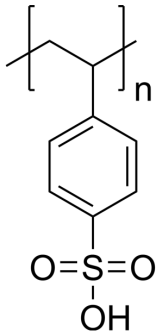
CAS No.: 28210-41-5

Molecular Formula: $(C_8H_8O_3S)_X$

Target: Others

Pathway: Others

Storage: Solution, -20°C, 2 years



SOLVENT & SOLUBILITY

In Vitro	H_2O : 250 mg/mL (Need ultrasonic)

BIOLOGICAL ACTIVITY

Description	Polystyrene can form Polystyrene microplastics (PS-MPs), a hazardous material with potential toxicity. Polystyrene microplastics is harm to zebrafish heart and induces male reproductive toxicity in mice[1][2]. MCE provides Polystyrene products in solution packaging.
In Vitro	Polystyrene can be made into microplastics (PS-MPs). 0.5 μm, 4 μm, and 10 μm-particle-size PS-MPs can enter into three kinds of testicular cells (GC-1 cell line) in vitro. PS-MPs causes a decrease in sperm quality and testosterone levels in mice[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Polystyrene (PS-MPs' particle sizes 3-12 μm; p.o.; 21 d) shows adverse effect on zebrafish activity and oxidative stress, metabolic changes and contraction parameters in the heart tissue[1]. Polystyrene (PS-MPs' particle sizes of 4 μm and 10 μm; p.o.; 24 h) resultsPS-MPs accumulated in the testis of mice, and (PS-MPs, particle sizes of 4 μm and 10 μm; p.o.; 28 d) induces spermatogenic cells abscissed and arranged disorderly, and multinucleated gonocytes occurred in the seminiferous tubule[2]. Polystyrene (PS-MPs' particle sizes of 0.5 μm, 4 μm and 10 μm; p.o.; 28 d) induces testicular inflammation and the disruption of blood-testis barrier in mice[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Dimitriadi A, et al. Adverse effects polystyrene microplastics exert on zebrafish heart - Molecular to individual level. J Hazard Mater. 2021 Aug 15;416:125969.

[2]. Jin H, et al. Polystyrene microplastics induced male reproductive toxicity in mice. J Hazard Mater. 2021 Jan 5;401:123430.

Caution: Product has not been fully validated for medical applications. For research use only.

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