# PRODUCT INFORMATION

## PBI-4050 (sodium salt)

*Item No. 42912*

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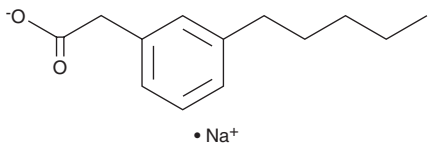
| **Formal Name:** | 2-(3-pentylphenyl)acetate, monosodium salt |
| **MF:** | $C_{13}H_{18}O_2 \bullet Na$ |
| **FW:** | 229.3 |
| **Purity:** | ≥98% |
| **Supplied as:** | A solid |
| **Storage:** | -20°C |
| **Stability:** | ≥4 years |




*Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.*

### Laboratory Procedures

PBI-4050 (sodium salt) is supplied as a solid. A stock solution may be made by dissolving the PBI-4050 (sodium salt) in the solvent of choice, which should be purged with an inert gas. PBI-4050 (sodium salt) is sparingly soluble (1-10 mg/ml) in ethanol and DMSO.

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. Organic solvent-free aqueous solutions of PBI-4050 (sodium salt) can be prepared by directly dissolving the solid in aqueous buffers. PBI-4050 (sodium salt) is sparingly soluble (1-10 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

### Description

PBI-4050 is an agonist of free fatty acid receptor 1 (FFAR1/GPR40) and an antagonist of G protein-coupled receptor 84 (GPR84).[1] It induces β-arrestin-2 recruitment in a reporter assay using HEK293 cells expressing human FFAR1/GPR40 ($EC_{50}$ = 275 µM). PBI-4050 inhibits activation of GPR84 induced by decanoic acid (Item No. 20838) or embelin (Item No. 11838) in reporter assays using HEK293 cells expressing the human receptor ($IC_{50}$s = 398 and 209 µM, respectively). *In vivo*, PBI-4050 (200 mg/kg) decreases renal histological lesion scores in a mouse model of doxorubicin-induced nephrotoxicity. It also reduces tissue fibrosis in several additional *in vivo* rodent models, including carbon tetrachloride-induced hepatotoxicity and bleomycin-induced pulmonary fibrosis. PBI-4050 (100 mg/kg) decreases albuminuria, prevents decreases in the glomerular filtration rate (GFR) and podocyte numbers, and reduces blood glucose levels in a model of accelerated type 2 diabetes using *eNos*$^{-/-}$ *db/db* mice.[2]

### References


1. Gagnon, L., Leduc, M., J.-F., T., *et al.* A newly discovered antifibrotic pathway regulated by two fatty acid receptors: GPR40 and GPR84. *Am. J. Pathol.* **188(5)**, 1132-1148 (2018).
2. Li, Y., Chung, S., Li, Z., *et al.* Fatty acid receptor modulator PBI-4050 inhibits kidney fibrosis and improves glycemic control. *JCI Insight* **3(10)**, e120365 (2018).





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