

## P2 receptors in cardiovascular regulation and disease

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**Erratum to: Purinergic Signalling**  
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In Table 1, at line 8 after P2Y<sub>14</sub>: “IP3” should be changed to “↓cAMP”.

In Fig. 2, lower left in the VSMC: P2Y<sub>12</sub> should be P2Y<sub>2</sub>.

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The online version of the original article can be found at:  
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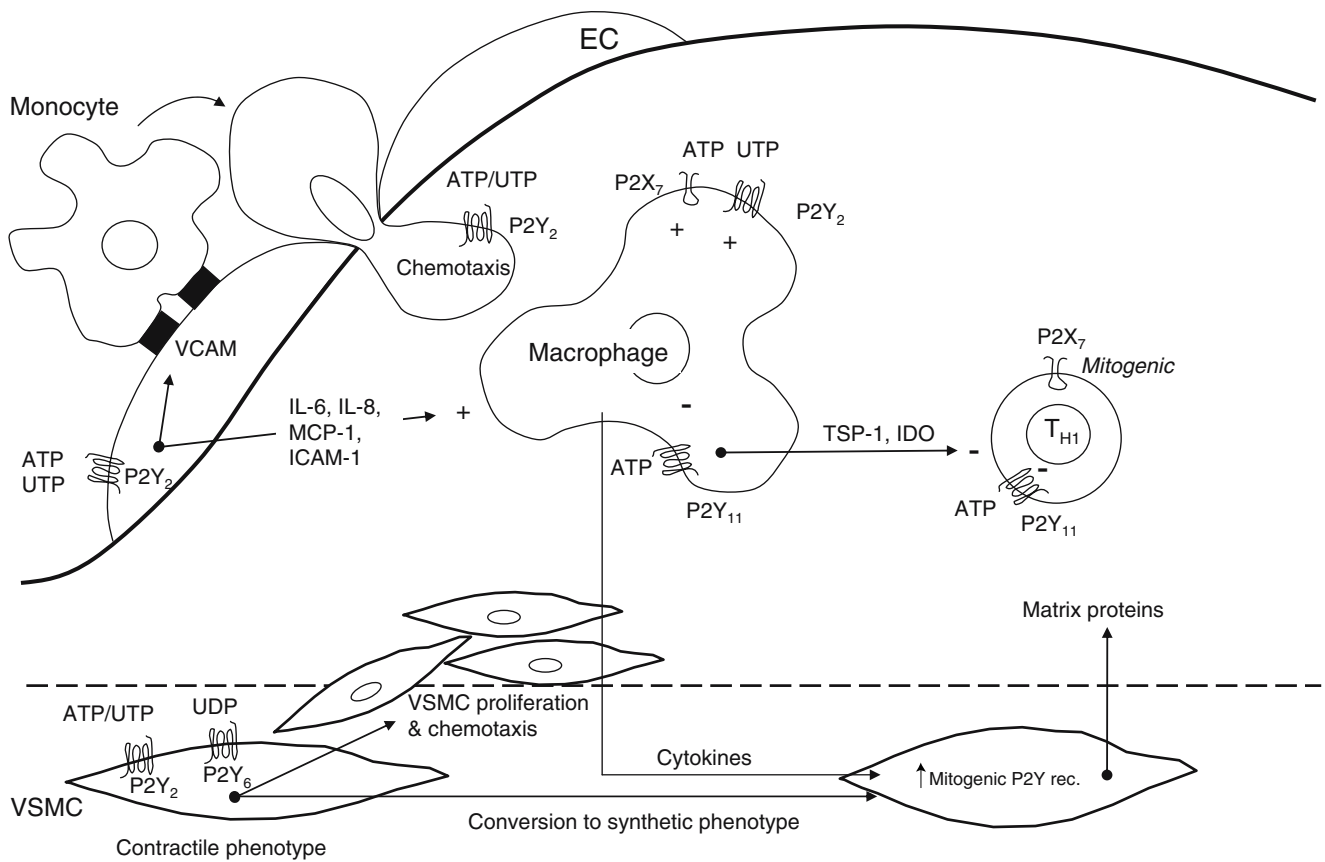
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**Table 1** Receptor classification, intracellular signalling, ligands and selective agonists and antagonists

| P2 subtype        | I.c. signalling      | Ligand                        | Selective agonist             | Selective antagonist   | Non-selective antagonist   |
|-------------------|----------------------|-------------------------------|-------------------------------|--|----------------------------|
| P2Y <sub>1</sub>  | ↑IP3                 | ADP (ATP)                     | MRS2365                       | MRS 2179, MRS2500  |                            |
| P2Y <sub>2</sub>  | ↑IP3                 | UTP = ATP                     | MRS2498, UTPγS,<br>INS3717    |  | Suramin > RB2              |
| P2Y <sub>4</sub>  | ↑IP3                 | UTP (=ATP In rodents)         | UTPγS, INS3717                | –  | RB2 > Suramin              |
| P2Y <sub>6</sub>  | ↑IP3                 | UDP                           | MRS2666,<br>MRS2633, UDPβS    | MRS2578  |                            |
| P2Y <sub>11</sub> | ↑IP3, ↑cAMP          | ATP                           | AR-C67085MX,<br>NF546         | NF157  | Suramin > RB2              |
| P2Y <sub>12</sub> | ↓cAMP                | ADP                           | –                             | Clopidogrel, prasugrel, AZD6140,<br>INS50589, AR-C9931 (cangrelor) |                            |
| P2Y <sub>13</sub> | ↓cAMP                | ADP                           | –                             | MRS2211  |                            |
| P2Y <sub>14</sub> | ↓cAMP                | UDP-glucose,<br>UDP-galactose | UDP-glucose,<br>UDP-galactose | –  |                            |
| P2X <sub>1</sub>  | Positive ion channel | ATP                           | α,β-mATP                      | NF023, NF449   | TNP-ATP, Ip <sub>5</sub> I |
| P2X <sub>2</sub>  | Positive ion channel | ATP                           | –                             | NF770  | Suramin,<br>isoPPADS, RB2  |
| P2X <sub>3</sub>  | Positive ion channel | ATP                           | α,β-mATP                      | A317491, NF110   | Suramin                    |
| P2X <sub>4</sub>  | Positive ion channel | ATP                           | Ivermectin potentiates        | –  | TNP-ATP                    |
| P2X <sub>5</sub>  | Positive ion channel | ATP                           | –                             | –  | Suramin, PPADS             |
| P2X <sub>6</sub>  | Positive ion channel | ATP                           | –                             | –  | –                          |
| P2X <sub>7</sub>  | Positive ion channel | ATP                           | –                             | KN62, KN04, MRS2427  | Coomassie brilliant blue G |
| Ectonucleotidase  |                      |                               | Apyrase, human<br>SolCD39     | ARC67156   |                            |

*Atherosclerotic plaque*



**Fig. 2** Functional roles of P2 receptors in the atherosclerotic inflammatory plaque and during restenosis. See text for details. Purines and pyrimidines acting on P2 receptors stimulate vascular inflammation both by actions on the endothelial cell (EC) and by effects on inflammatory cells. Furthermore, they stimulate vascular

smooth muscle cell (VSMC) proliferation, the conversion to synthetic phenotype and production of matrix proteins. Mitogenic P2 receptors are upregulated by growth factors and cytokines. *IL* interleukin, *MCP-1* monocyte chemoattractant protein-1, *ICAM-1* intercellular adhesion molecule-1, *TSP* thrombospondin, *IDO* indoleamine 2,3-dioxygenase